



Report for the File No. 331

## **Environmental Health Project Work Plan**

### **Year One (FY 2000) and Five-Year Overview**

by

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January 2000

Prepared for the U.S. Agency for International Development  
under EHP Project No. 26568/Workplan.y1

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# Introduction

## 1 Background

EHP II has been established by USAID to achieve two objectives:

- Reduce mortality and morbidity in children under five or associated with infectious diseases of major public health importance, by improving environmental conditions or reducing exposure to disease agents, and
- Provide a mechanism for access by diverse interests within USAID to a broad range of expertise in environmental health. In particular, there is growing concern in some USAID-assisted countries and regions about environmental problems which are not connected with infectious disease, but rather are associated with noninfectious disease outcomes.

In order to achieve these objectives, EHP II was awarded as an Indefinite Quantity Contract (IQC) which has, in effect, two main parts. Task Order 1, which was awarded at the same time as the umbrella IQC, is specific in its objectives and detailed activities in order to serve primarily the first of the two objectives above. The IQC also provides for other task orders that may serve either of the two objectives, but will be the avenue for addressing the second objective.

This work plan describes activities under Task Order 1 only. In support of G/PHN/HN's Strategic Support Objectives in child health (SSO #3) and infectious diseases (SSO #5), the key function of this task order will be to provide global leadership in the development, implementation, and promotion of new and improved, cost-effective, and scaled-up environmental health interventions.

This document presents fairly detailed plans for FY2000; it also provides an overview of the five-year program of work. The document, and the steps leading to its development, are meant to establish a common understanding among the EHP core staff, the larger EHP team of subcontractors, and the USAID management team of the lines of work and levels of effort that will be dedicated to achieve the results specified in Task Order 1. This document is intended to have limited distribution, primarily to the EHP and USAID team, and should be seen as dynamic,

rather than static, in that it is expected to evolve over time. An annual work plan is a contract requirement, and it must be approved and signed by the Cognizant Technical Officer in USAID. Once approved, the activities in the work plan will be developed in further detail by the EHP staff and activity managers as Detailed Activity Plans with the further involvement of USAID, the larger EHP team, and other partners.

## 2 Rationale

In essence, Task Order 1 is meant to bring about improvements in child health through activities that lead to improved programs to prevent the main killers of children under five. The principle approach is to address the environmental determinants of disease, including behaviors. Specifically, EHP will aim at the prevention of diarrhea, ARI, malaria, and malnutrition, which are responsible for or associated with an estimated 19%, 19%, 5%, and 54%, respectively, of the 11.2 million child deaths that occur annually. The reduction of other vector-borne diseases of public health importance – most notably dengue – may also be included as regionally or locally appropriate. For each of the major causes of child mortality noted above, EHP has a role to contribute as a piece of the larger puzzle that constitutes, when all of the pieces are in place, an effective child health intervention.

In the case of diarrheal disease, we know quite a bit—and have a great deal of experience—in effective programs to lower incidence. We know that effective programs can reliably reduce the burden of diarrheal disease in young child by 25%, and may reduce the burden by more than half. We know what the elements of these programs are, but current programs are lacking in several regards. First of all, prevention is often not included in child health programs. Second, where it is included, it frequently does not focus on the appropriate risk factors in a general sense. Third, locally important risk factors are often missed. And finally, programs may simply not be effective in communicating with mothers and other family members or in leading to conditions that actually reduce diarrhea in children in a sustainable fashion. We have experience and knowledge about how to address each of these short-comings, but that experience and knowledge needs to be pulled together, further developed, packaged, and diffused through a large group of partners that are concerned with child health. In short, in the case of diarrhea, the challenge is to mainstream effective prevention activities into child health programming.

For ARI, much less is known about prevention, and EHP's role will be conditioned by the state of this knowledge and programming. There are strong indications that ARI is caused by indoor air pollution, but the cause-effect relationship has not been proved. Also, the programmatic options for reducing indoor air pollution have been explored but have not been fully developed and/or tested in various settings. EHP will develop and test appropriate methods – technical, behavioral, or both. The aim will be to find ways to reduce IAP that are programmatically practical and likely to have sustained benefit, as interventions that will be appropriate to use in prospective studies of the effectiveness of reduced IAP in reducing ARI in children.

There has been increasing attention on malaria in recent years, and EHP will find a niche among various players and activities that are already working on lowering malaria morbidity and mortality. Specifically, EHP will not focus on prevention through the use of insecticide-treated materials (ITMs) or on the treatment of malaria. But rather will address the gap in current planning and programming in the area of environmental controls to prevent malaria. While a great deal of emphasis was given to this area in the past, the interest, and even the science, has been largely lost as emphasis has focussed on a single prevention methodology – first DDT, and now ITMs. Evidence is being developed, however, that ITMs may not be sufficient to prevent biting of malaria-carrying mosquitoes in many cases – for example, when the locally important malaria vector bites outside the house and during the day. EHP plans to work in the area of environmental controls by improving the information that malaria control programs use to make programming decisions (through ECHO XS), and by developing programmatically practical means of implementing environmental controls to reduce vector breeding, thereby reducing malaria transmission (under CESH).

The current nutritional status of a child is determined by the starting point (birth weight) plus gains (intake) minus losses (through diarrhea, malabsorption, and febrile illnesses). EHP will contribute to improving nutritional status by working to reduce these losses. Among various morbidities that young children may experience, the relationship between diarrhea and growth is best understood. It is clear that in circumstances where the nutritional intake of children is marginal – in which most children in the developing world live - the frequency and severity of diarrheal illness is an important determinant of growth. Preventing diarrhea, or reducing its duration and/or severity will reduce nutritional losses and lead to improved growth. Similarly, febrile illnesses have been demonstrated to lead to a net loss of calories, though the relationship between febrile illnesses – such as ARI and malaria - and weight loss in children is not as well established as in the case of diarrhea. By working to reduce the burden of diarrhea, ARI, and malaria morbidity, EHP will contribute significantly to improving the nutritional status of children.

All of the conditions mentioned above can best be approached through effective community-based programs. There is an extensive and long history of working with communities, through a great variety of approaches, but no consensus approach. And EHP does not expect to develop a

single best approach. The project will work to make more systematic and predictable the application of existing methodologies of working with communities, in order to effectively support programs that aim to achieve health outcomes. We will work to establish a framework for community-based programming that will provide a basis for understanding the role of many methodologies that exist, and choosing among them to achieve specific program objectives. We will work with partners to package this flexible approach in a way that makes the useful range of experience in community-based programming more accessible to program planners and managers.

The infectious disease agenda of USAID and EHP is closely allied to the child health agenda, though not identical to it. The main EHP foci within infectious disease activities will be malaria prevention, a central child health issue, and cross-sectoral surveillance – again primarily in order to improve the planning and implementation of malaria control programs.

## Project Strategy

In order to contribute significantly to improved child health, EHP II must work in a way that not only avoids duplication but fosters integration and synergy with other projects, agencies, and institutions with common programmatic objectives. These other agents fall into two main groups – those primarily concerned with improving child health and those primarily concerned with improving the environment. On the one hand, the goal is to contribute to the improvement in child health by more effectively integrating environmentally-related prevention measures into child health programs. On the other, the goal is to advocate for including health concerns – and associated program decisions – in environmental programs. In order to have a significant impact on public health, EHP will adopt several key strategies:

### *Work in partnership*

Partnerships are central to EHP's strategy and to the successful completion of individual activities. Several beneficial outcomes or purposes make a compelling case for partnerships. EHP will work in partnership with implementing organizations to leverage funds, where EHP will provide "value added," for example, through operations research to improve and evaluate an activity's disease prevention results. EHP will work with partners to influence policy – nationally and internationally. EHP will work with other donors and international organizations to support consistent approaches, where helpful, or to assess or create demand for the products of EHP activities, or to inform the design and priorities for these activities. Partners will include UN agencies, especially UNICEF and WHO, other USAID Global Bureau health projects, especially the BASICS project, PVOs, NGOs, and CBOs, local and national public and private sector partners, USAID missions, and others. Partnerships will operate at the international,

national, and local levels. Certainly this complex array of situations and actors can seem bewildering. It is complex, but can be readily sorted out at the activity level. For each activity the partnership should answer the following questions: Who are the main actors in the technical area? Who is the main audience for the product of the activity? How will that audience be involved at the outset and throughout? Who are potential implementing partners and funding partners? And so on. In order to make working in partnership the cornerstone of its activities, EHP will develop a strategy that not only looks at international partnership issues, but also provides a methodology for the analysis of partnership needs and opportunities for each activity. We will review and revise this partnership strategy on an annual basis, at a minimum, and more frequently if that seems needed.

*Develop rigorously tested, cost-effective interventions and tools*

Where the clear need for a tool or for an answer to an operations research question has been developed with partners, EHP will work with its consortium members and others to address that need in a defensible and valid fashion: to provide sound solutions that involve the collaboration of recognized authorities so that the products will be widely accepted within the public health community.

*Mainstream prevention of childhood diseases through environmental interventions in child health programs – both within USAID and partner organizations*

Partnerships are key to achieving this. EHP will work with partners to develop a well-defined, sound set of interventions that can fit programmatically into child health programs. The goal of this strategy is for environmentally-related prevention measures to be routinely considered and often included in child health programs.

*Implement country-level strategies, maximizing the use of local expertise, to have national-level impact*

All of the above strategies, and the objective of achieving measurable impact on child health require effective work at the country level. Such work can only happen with the development of effective country-level partnerships – with implementing partners, USAID, and others, and appropriate and effective technical assistance to support the implementation of practical, locally effective, sustainable, and scaleable programs.





### *Focus on effective community-based approaches to improving health*

EHP will have a community-based focus in virtually all that it does. If they are to be successful in improving child health, environmental and behavioral interventions must work effectively with communities and households.

### *Manage information and communication in a strategic fashion*

Both EHP and the field of environmental health suffer from information overload on the one hand, and lack of access and compartmentalization of knowledge and information on the other. Communication of any type has significant costs associated with it. EHP will seek to identify specific information and communication needs and respond to them, and to use cutting-edge technologies to increase efficiency and reduce costs while increasing the overall effectiveness of its communications program.

## **Apply an interdisciplinary approach and analysis**

EHP will develop and implement procedures to assure that each activity is viewed from as many disciplinary angles as possible – such as epidemiology, behavioral science, engineering, finance, economics, and institutional development.

# **3**

## **Specific Results to be Achieved**

Task Order 1 is designed to accomplish two of USAID's intermediate results:

IR #1 – Community-based Environmental Sanitation and Hygiene (CESH): Improved environmental health interventions will be implemented at the community and household levels,

as well as taken to scale at the national level, using innovative methods proven to be effective in reducing childhood mortality and morbidity due to diarrheal disease, acute respiratory infections (ARI), and malaria as well as other vector-borne diseases.

IR #2 – Environmental Change and Health Outcomes (ECHO): Surveillance systems and interventions which support and exploit improved understanding of the connections between environmental factors and health outcomes at the local, national, and regional levels will be developed and implemented. Consistent with the overall objective of EHP, this result is focussed on reducing childhood mortality and morbidity, as well as preventing and controlling infectious diseases of major public health importance. In part, this result will also elucidate the health implications of increased stress placed upon natural resources at the local, regional, and global scales, including water in its fundamental role in supporting good health.

EHP will reach these two IRs through 18 subtasks, organized under six tasks (see Statement of Work from Task Order 1).

At the end of five years, the results specified in these 18 subtasks will have been achieved. Ultimately, EHP should be recognized for a small number of critical contributions to public health practice. These will include contributions to the development of an inclusive and accessible approach to working effectively with communities; increasing the understanding, and ultimately the level of programming, of diarrhea prevention in child health programs; improving planning for malaria control programs through the use of intersectoral surveillance information; and increasing the understanding and practicality of environmental interventions to prevent malaria.

## **4** **Summary of the Work Plan**

During year one EHP will chart the course and develop design specifications for the tools, operations research, and methodologies to be further developed and implemented in the 5-year project period. Since EHP builds on considerable knowledge and experience and longstanding partnerships in many cases, we expect the tasks of the first year to be efficient. Rather than creating new knowledge, we will be systematizing the current body of knowledge, making it more accessible, and identifying gaps and work still to be done. Similarly, with partnerships we will be confirming existing partnerships and extending our range of partners to create and/or evaluate consensus and demand among them for the products of EHP efforts. We will be

focussing on developing and implementing a partnership strategy. We will work with technical working groups to establish technically sound approaches. And we will participate with partners in conferences and the production of background papers to establish a consensus on the challenges and potential for environmentally related prevention in child health programs. Finally, we will seek to rapidly increase the level of effort in country programs – which is already considerable with five countries under ECHO, one country under CESH, and several others engaged in other activities.

Section 2 describes the development of work plans during year one. It includes this work plan, as well as the work plan for next year. Section 3 describes the overall five-year CESH plan of work and details the year-one work plan. Under CESH subtask 1, operations research, activities will begin in all three areas – diarrhea, malaria, and ARI—and will emphasize gathering information and working with partners to further define the specific and critical research issues that EHP will address and our role in doing so. Similarly, in both subtask 2 (Policy) and subtask 3 (community-based method) we will work with a variety of partners to describe the current status. In subtask 2 we will then proceed to further define the key role for EHP and begin background work on a “policy tool.” In subtask 3, by the end of the first year, we will have developed the overall CESH approach through a broadly consultative and collaborative process, including the identification of specific issues and questions to be answered by operations and evaluation research. In CESH subtask 4, the Benin country program, we will be working to meet the needs of the USAID mission and to bring Benin country activities in line with the overall CESH approach. This will assure that the Benin program maximally benefits from EHP’s work through CESH, and that CESH maximally benefits from the field experience in Benin.

Section 4 describes the two parts of ECHO work plan: ECHO/IP and ECHO/XS. ECHO/IP (for integrated programs) is a new activity that will be developed in year one, beginning with field activities in Madagascar. Consistent with EHP’s overall approach, the development of the ECHO/IP approach relies on partnerships – both at the international and national level – and on consultative processes that include technical working group meetings. At the end of year one we should have developed and articulated the ECHO/IP approach, developed M&E guidelines and indicators for it, and initiated activities in Madagascar.

ECHO-XS (for cross-sectoral surveillance) builds on a number of activities that began under EHP I, with ongoing country activities in Malawi, Mozambique, Eritrea, and Nepal. During year one, several literature reviews and issue papers will be undertaken to support the preparation of a concept paper, and strategies for methods development. In addition, advocacy and evaluation instruments will be developed, and technical working group meetings will be held to support all ECHO/XS activities. Still, the bulk of the ECHO/XS will be country-level work in support of national programs in the four countries.

Section 5, Policy and Lessons Learned, has three main parts. The first, M&E or subtask 1, focuses on the development of CESH and ECHO indicators, M&E tools and guidelines, performance monitoring, and a results tracking database. EHP will work closely with partners on the development of a core set of indicators not only to serve EHP but to be useful to key partners such as UNICEF and WHO. The second part, Partnerships and International Meetings and Policy Reports, or subtasks 2 and 3, is focussed on the international arena, with a view to the formation of partnerships and definition of the substance and process of those partnerships. Included is one meeting on ARI that is meant to raise interest particularly in WHO on the issue and increase commitment to working in prevention of ARI through environmental interventions. One product of this workshop will be a research agenda that will locate the EHP research activities in a broader context and set the stage for maximizing the utility of the product of the research. We will lay the groundwork for a meeting on diarrheal disease, with a view to clarifying our role in prevention activities and emphasizing the importance of prevention within child health programs. We will systematically develop a partnership strategy for EHP not only for the international partners, but also for working with partners at the regional, national, and sub-national levels. The third part, Lessons Learned and Progress Update (or subtask 4), provides for regular meetings with USAID and capturing lessons learned throughout the life of the project.

Section 6, Information and Communication, describes a number of activities to expand the accomplishments of WASH and EHP I in the provision of information and dissemination services. We will develop and launch a new web site that will be closely linked to the technical activities of the EHP and to newly developed or strengthened partnerships with others. The overall intent is to view information services as having a strategic role in achieving policy, CESH, and ECHO goals.

Section 7 summarizes a number of activities that do not fit squarely into the six tasks within Task Order 1; they represent a variety of activities, from reduction of lead exposure to issues around decentralization of water services to rural communities.

Sections 1 to 7 of the work plan are organized roughly in the same manner. In addition to the descriptive text, there are gantt charts showing the sequence and timing of activities for five years and – with more detail – for FY2000. Each section ends with a budget and level-of-effort summary for FY2000. Section 8 contains only one page: a summary of level-of-effort and budget for all of Task Order 1 for this fiscal year.

# Development of Work Plans

## 5 Introduction

Task 1 in Task Order #1 is the development of annual work plans. This section describes the process and schedule we will follow in completing these work plans, as well as the level of effort and budget for this task. It builds upon the description of the approach for the work plan in CDM Team's technical proposal.

## 6 Procedure

The section is divided into two parts: the steps in the development of the work plan for year one and the steps in the development of the work plans for each of the succeeding years.

### Steps in Work Plan Development for Year One

#### **Preplanning and information gathering (July 1 – Oct. 4, 1999)**

Following the award of the EHP II contract, the CDM Team mobilized the core technical staff (now titled the Technical Management Committee or TMC) and began their initial preplanning for the first work plan. This planning included the review of existing information, including the CDM technical proposal and requests for EHP II services that G/PHN had received. We also had

discussions with USAID staff regarding the CESH and ECHO field activities. In August and September a series of meetings were held with the CTO to clarify our approach and plan for the start-up workshop.

### **Project Start-up Workshop (Oct. 5-7)**

The purpose of the workshop was to ensure a common understanding of the project, build a project team, clarify how the project would be managed, and provide input into the development of the work plan. The workshop began with a half-day presentation and discussion at USAID and included representatives from each of the subcontractors, the core technical staff, USAID Environmental Health Division staff, and additional USAID staff from various offices in the Global Bureau and the regional bureaus. The next two days included more detailed presentations of the various components of the project to the subcontractors.

### **Drafting the Work Plan (Oct. 8)**

Following the workshop, the TMC developed an outline for the work plan which was reviewed and discussed with the CTO. The TMC members prepared drafts of various sections, reviewed them, and made revisions.

## **Complete First Draft (Nov. 9)**

The first draft of the work plan was presented to the CTO at a meeting on Nov. 9. Following his comments the TMC made revisions and began preparations for the formal presentation meeting.

## **Revise/ Second Draft (Nov. 24)**

A second draft was submitted for comments to the CTO.

## **Final draft (Dec. 1)**

Final revisions were made to the work plan including the budget summary sheets.

## **Presentation to USAID (Dec. 8)**

A two-hour presentation will be made to a larger USAID audience from the Global Bureau and regional bureaus to seek their comments and input.

### *Final Revisions, Submission (Jan. 10, 2000)*

After receiving comments from USAID the work plan will be finalized, submitted and distributed.

## **Steps in Work Plan Development for Years Two – Five**

The following steps will be taken in developing each of the annual work plans after Year 1:

- Review progress to date, information gathering (June)
- Develop outline and reach preliminary agreement on content (July)
- Prepare draft for review (August)
- Finalize (September)
- Submit the annual work plan (Oct. 1)



# **3 Community-Based Environmental Sanitation and Hygiene**

## **3.1 Introduction**

The CESH task (Task 3) contains four subtasks, listed below. Together, they address environmental contributions to three major causes of child mortality—diarrhea, ARI, and malaria.

1. Develop and implement an operations research (OR) plan to achieve CESH results by
  - A. Developing a tool to determine the relative effectiveness of water supply, sanitation, and hygiene interventions in several settings, including poor urban communities.
  - B. Determining the effectiveness of community-based environmental management interventions to control vector-borne diseases, especially urban malaria, and perhaps other regional issues in Africa.
  - C. Developing, in several distinct field settings, effective interventions to reduce children's exposure to particulate air pollution.
2. Collaborate with other international organizations in developing tools to assist in promoting environmental sanitation as national policy; apply those tools in five USAID-assisted countries.
3. Build upon existing approaches and work collaboratively to refine and test community-based methods, including behavior change, to prevent diarrheal disease, malaria, and ARI.
4. Use these community-based approaches to improve community sanitation and health in at least three USAID-assisted countries.

The topics of subtask 1, operations research, were provided in the RFP. However, all three components require implementation in communities. Sometimes EHP II will play a leading role

in implementation, but other organizations (e.g., NGOs, other USAID projects, programs of other donors) may also take the lead. In all cases, the results from field interventions will inform operations research. The main components of the CESH approach will be developed in the first year and refined in subsequent years through implementation under subtasks 4 and 1.

## **3.2 Rationale**

Activities under CESH will build upon existing knowledge and insights. Lessons learned from WASH, EHP I, UNDP, and others indicate that environmental health interventions are more sustainable when community members are involved in their design and implementation. Experience shows that hardware innovations are used more effectively when community members learn sanitation and hygiene skills to accompany them. And activities encounter fewer obstacles and are most sustainable when policy supports community-based environmental health interventions.

While community-based approaches have been used frequently in both environmental and health initiatives, there are still many unanswered questions about their utility.

- The health impact of such interventions has seldom been assessed.
  - It is often not clear which community-based models are most effective in a given situation.
  - There have been relatively few attempts to scale up community-based approaches in environmental health.

CESH will address these issues through the following efforts:

- Implementing programs in developing countries with careful monitoring and evaluation of health outcomes, as well as evaluating them using process indicators;
- Developing ways to tailor interventions to local health problems and circumstances, through an assessment of current state-of-the art of community-based programs and approaches that examines what works best for which types of environmental health issues and in which kinds of situations;

- Undertaking operations research to develop tools to help communities and districts define more precisely the incidence, distribution, and causes of diarrheal disease, malaria, and ARI in order to determine how to address these child health problems;
- Developing tools that help communities assess the probable sustainability of interventions, the institutional capacity (of the private sector, local and district government, NGOs), presence of local leadership to champion and/or manage activities, tradition of collective action (effective, sustained, degree of organization), presence of relevant infrastructure, policy environment, financial resources/mechanisms for sustainability (e.g., government, private sector, community, other donors);
- Assisting in the scale up, monitoring, and evaluation of an integrated, synthesis community-based approach in at least two countries;
- Developing partnerships with UN organizations, USAID CAs, and others to incorporate CESH operational research findings and approaches into programs and to obtain different perspectives as EHP develops the CESH approach and operational research agenda.

CESH will contribute to EHP II as a whole by providing tested ways to approach and work with communities to design and implement environmental health programs. CESH and other components of EHP are interdependent:

- ECHO/XS produces information on geographic distribution of malaria and other vector-borne diseases and points to reasons for these incidence patterns. Guided by ECHO/XS findings and building upon its institutional relationships, CESH will work with communities and local government to design and implement community-based environmental management strategies for vector control. In addition, a technical working group (TWG) on malaria will provide input to both ECHO/XS and CESH tasks.
- ECHO/IP and CESH are closely related. Both will employ an integrated, participatory community-based approach for environmental management including tools that result from CESH operations research; they will use the same evaluation and monitoring tools and contribute to documenting lessons learned. In addition, communities in which ECHO/IP works may become sites for operations research conducted under CESH. Finally, CESH and ECHO/IP will share a TWG on community participation to guide their approaches.

- Task 2 (Policy) and CESH share common proximal goals, i.e., creation of partnerships (e.g., UNICEF WES) to further community-based environmental health programs and ensure that prevention through environmental management is part of the international child survival agenda. CESH depends on Task 2 to
  - Help to establish partnerships to facilitate CESH work (e.g., with UNICEF CIMCI, BASICS);
  - Participate in meetings (or convene them) on issues of relevance to CESH, e.g., ARI resulting from indoor air pollution;
  - Present CESH lessons learned and insights to a wider international audience;
  - Identify experts who should be included in CESH TWGs.
  
- Task 6 (Information and Communication) and CESH will work together closely to:
  - Disseminate CESH activities and results;
  - Hold meetings and brown bags to discuss CESH lessons learned and learn from others;
  - Provide guidance for identifying others' relevant experiences, lessons learned, and publications.
  
- Other subtasks will:
  - Use CESH lessons learned
  - Apply and test elements of the CESH approach;
  - Contribute new partners to CESH and collaborate with existing CESH partners, as appropriate.
  
- CESH will use grants in operations research (especially for ARI).

### 3.3 Five-Year Overview

#### 3.3.1 Basic Strategy

The CESH program is field-based and responds to programmatic needs. In 1998, de Zoysa et al. summarized development and evaluation of public health interventions in nine steps, shown in the box below. The state of knowledge about the three child health problems that CESH addresses varies. Of the three problems, the most is known about effective interventions to address diarrheal disease. Less is known about effective community-based environmental management strategies to control malaria and other vector-borne diseases. The least is known about effective interventions to reduce ARI through decreasing indoor particulate air pollution (IAP). (The link between ARI and IAP has not been definitively established.)

CESH interventions will be sequenced as follows, based on the state of information about the three health problems.

- Diarrheal disease interventions (at de Zoysa's step 8) begin in the first quarter of year one with scale-up of a community-based approach in Benin, followed by development of community-based assessment tools for diarrheal disease. At least part of the first component of the tools will be developed and tested in Benin during year one.
- ARI interventions (at de Zoysa's step 4) begin later in year one and are linked to partnerships and knowledge gained through Task 2 which will guide future work; the field-based operations research needed for ARI interventions will occur later in the project.
- Malaria partnerships are undertaken in the first quarter of year one, with documentation of what is known about environmental management of vectors (at de Zoysa's step 1) in the second quarter. Late in the first year, opportunities for field interventions will be explored based on findings from ECHO/XS.



EHP will produce tools in tandem with interventions. Because of experience gained from EHP I, WASH, and others, diarrheal disease interventions can begin early in the first year.

There is a large role for partners and technical experts in CESH:

- Development of the CESH approach relies on input from partners (e.g., UNICEF CIMCI, UNDP/World Bank, Core Group, other USAID CAs such as the PVO/NGO Networks Project, Change, BASICS, etc.) as well as other recognized technical experts<sup>1</sup>
- Technical working groups (TWGs) provide guidance in diarrheal disease, community-based approaches, and behavior change; the ECHO/XS TWG informs malaria and vector control interventions.
  - Partners will share in dissemination of CESH lessons learned, activities, and the CESH approach and may implement CESH agendas (e.g., testing tools and approaches developed under subtasks 1 and 3)
  - Members of partner organizations (e.g., USAID CAs) will facilitate some CESH-meetings, e.g., the community-based participation TWG.

The CESH approach will incorporate the following elements from various community-based approaches:

1. Participatory rapid assessment (PRA), building upon the CIMEP model, and participatory learning and action (PLA), using community-based epidemiology to determine incidence, distribution, and causes of diarrheal disease
2. Use of community fora where appropriate, e.g., community-wide meetings
3. Reliance on both newer civil society organizations (e.g., PTAs) and traditional forms of social organization for broad-based participation
4. Full participation of women and the poor in CESH activities and inclusion of gender analysis when appropriate
5. Inclusion of municipal and district governments in project design and implementation

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<sup>1</sup> In CESH, partnerships are relationships with other organizations (PVOs, NGOs, UN organizations, national governments, USAID CAs working in the field of environment, environmental health, water and sanitation, child survival, and other relevant topics). CESH will work with these organizations to design and implement activities to promote child health within the CESH mandate.

6. Testing ways to resolve the tension between community participation and the established finding that some of what people do (or do not do) can make their children sick (e.g., water storage, lack of appropriate handwashing), adapting principles from hygiene education and other information, education and communication
7. Integration of hardware with ways of relating to the hardware to contribute to child health
8. Sharing results of any assessments with communities
9. Working with policymakers to support community-based approaches
10. Finding ways to make interventions cost-effective, sustainable, and appropriate for scale up

These elements will be common to all CESH activities. As an example, the program in Benin incorporates PRA and PLA and ensures inclusion of women, new civil society groups, and municipal and district governments. We will collaborate with NGOs active in Benin (either local or international) in implementing microfinance programs and work with them to devise means to finance CIMEP/CESH structures and, if possible, to provide infrastructure and communication through revolving credit. We will include work on subtask 1A in the Benin program (development of a community-based tool to measure the effectiveness of interventions to prevent diarrheal disease) by developing an abbreviated epidemiological survey, based on EHP I work in Bolivia and Benin. The abbreviated tool will consist of several questions (asked in ways consonant with community members' thinking about the subject) and observation of water storage as well as the presence/absence of latrines and their use. The tool will be used by literate community members, who will serve as interviewers/observers. (They will also play a role in instrument design and observe the data analysis process.) In Benin, survey results will serve three purposes:

1. Establish a baseline for evaluation;
2. Provide community-generated information for hygiene education; and
3. Help assess the value added by a participatory survey.

The diarrheal disease tool builds upon EHP I experience in using epidemiological survey data for participatory learning. We will help project participants share the results widely within the community, working through community organizations, schools, and community meetings. These activities will be combined with introduction of hardware.

### **3.3.2 Expected Results**



In five years, EHP should be in a position to demonstrate the public health impact of CESH activities through the following results:

1. Reduced morbidity from diarrheal disease in children 0-5, and an understanding of the role of various interventions in producing the effect in at least one setting
2. Development of a non-prescriptive, community-based method for reducing the incidence of diarrheal disease in children under six through changes in practices
3. Increased knowledge about effective strategies for community vector control to prevent malaria
4. Identification of ways to reduce children's and mothers' exposure to particulate indoor air pollution that are effective and accepted by communities.

The first result relies on activities under subtasks 1A, 2, 3, and 4. Subtask 1A, operations research to develop a tool for determining the most appropriate diarrheal disease interventions, will help programmers and communities to select the most appropriate interventions for each situation and measure the effects of interventions on morbidity. Subtask 2 contributes policies to support diarrheal disease prevention programs. Subtask 3, development of the CESH approach, will guide the design of successful programs, and subtask 4 will provide the opportunity to implement the programs. Implementation of the CESH community-based approach, together with hardware interventions, will contribute to achieving the first result.

Achievement of the second result depends on subtask 3 to develop the approach and subtask 4 to implement activities. The second result will occur through

- Further developing and documenting the CIMEP process (end of the first and beginning of the second year—through the Benin activity);
- Building partnerships with other organizations working in community-based approaches, especially in child health (begun in first year)
- Assessing where we are in community-based approaches, what works for which health problems and under what circumstances (first year);
- Incorporating health communication knowledge and experience into the CESH approach in Benin and other countries;

- Adding other CESH countries (second through fourth years);
  - Collaborating via a TWG (most input will come through Eroom and e-mail; first meeting in fourth quarter, first year);
- Gathering ECHO/IP country(ies) lessons learned (first through four years).

The third result will be achieved through activities in subtask 1B (operations research to develop community environmental management strategies for vector control). Such strategies will rely on the CESH approach, developed under subtask 3. Work to achieve the third result includes the following elements:

- ECHO/XS TWG on malaria (to meet in the second quarter of the first year) which will provide guidance in designing the CESH malaria operations research (subtask 2);
- Review of experience in environmental management for vector control, especially community-based (first year);
- Formation of partnerships around community-based interventions to control malaria vectors to share knowledge and experiences and locate arenas for collaboration in the field (begun in the first year);
- Use of approaches from EHP I in Zambia, ECHO/XS findings in Eritrea and other countries, and results of review;
- Tested community-based strategies for vector control (identify suitable countries in the first year and begin work late in the second year);
- Use of a tool for rapid assessment of malaria vectors developed in other projects (i.e., CDC), to design and evaluate EHP country program(s);
- If possible, a second country to further test interventions identified (start work there in third year).

The fourth result will be produced under subtask 1C, operations research to reduce children's exposure to indoor air pollution, and informed by activities under subtask 3. Work to achieve the fourth result will begin in the first year.

- In the second quarter of the first year, a paper reviewing various approaches to reducing exposure will be prepared.

- Results of the paper and an international meeting on the subject convened by WHO in Washington, DC, on April 4-5, 2000, will provide guidance for work on this subtask.
- Countries in which to test approaches will be identified (identification will begin in the fourth quarter of the first year)
- A grants program will be instituted to further develop community-based solutions to reduce exposure to IAP (e.g., improved ventilation and/or stoves, changes in the place where cooking occurs). Development of the grants program will begin in the last quarter of the first year; the grants program will be established in the second year and operate through the first quarter of the fourth year.
- Grants will be awarded to communities in the second through the fourth years.
- Evaluation of all interventions resulting from grants will be completed by first quarter of the fifth year
- Results will be published by the end of the second quarter of the fifth year.

### **3.3.3 Milestones**

*Result #1: Reduced morbidity from diarrheal disease in children 0-5 and specific knowledge of the role of various interventions in producing the effect in at least one setting.*

- A portion of the participatory epidemiological survey is developed and tested in Benin.
- An assessment of current community-based approaches is published.
- Other portions of a diarrheal disease tool are developed and tested in other countries.
- The CESH approach (including infrastructure interventions) is successfully implemented in an additional country, and a final evaluation demonstrates decreased diarrheal morbidity in children 0-5.
- Assessment of policymakers' needs for information on diarrheal disease prevention completed.
- Policy dialogue tool used in at least four countries.
- Policies in CESH countries and at least three other countries support community-based approaches to prevention of diarrhea.

*Result #2: A nonprescriptive, community-based method that is effective in reducing the incidence of diarrheal disease in children under six through changes in practices.*

- The CESH approach is published.

- Lessons learned are documented from application of the CESH approach in Benin, e.g., use of community organizations and school-based programs to disseminate concepts and information, participation in epidemiological survey and PRA. Lessons learned are published in year two.
- Lessons learned from at least one additional CESH country are published in year three.

*Result #3: Increased knowledge about effective strategies for community vector control to prevent malaria.*

- A review of environmental management for control of malaria vectors, especially community-based approaches, is published (first year)
- Community-based environmental management of vectors to prevent malaria is implemented in at least one country.

*Result #4: Identify means to reduce exposure to particulate indoor air pollution that are effective and accepted by communities.*

- A review of interventions to reduce particulate IAP is published (first year)
- A grants program is initiated.
- Results of interventions initiated under the grants program are published.

#### **3.3.4. Explanation of the Gantt Chart**

The following gantt chart should be read as a summary of the basic approach for this task over the five year duration of the project. The chart uses time lines and milestone markers for major activities only. A more detailed gantt chart for the first year of the project may be found in the next section after the descriptions of the subtasks.



### 3.4 Plan for FY2000 (Year One)

#### 3.4.1 Description of Subtasks

***Subtask 1A: Operations research conducted in several settings, including poor urban communities, to develop a tool to determine the relative effectiveness of water supply, sanitation, and hygiene interventions for the prevention of diarrheal diseases.***

In order to determine the components of an appropriate, sustainable, effective program to decrease diarrheal morbidity in a community or larger area, several types of information must be known. The following points are exemplary. Construction of the actual tools will depend upon program needs.

1. The prevalence and distribution of diarrheal diseases (DD) in children;
2. Factors associated with higher or lower incidences of DD in the community;
3. Status of infrastructure (e.g., quantity and quality of water, water storage containers, latrines, etc.);
4. Institutional environment and structure;
5. Possible financing mechanisms;
6. Potential champions for the necessary changes (e.g., in local government, the community, community organizations, and/or the private sector);
7. Social organization and traditions of collective action;
8. Community resources for information on health and/or the environment and existing processes for sharing such information.

Development of instruments to gather this kind of information requires different disciplines and skills. Versions of some of the necessary instruments were produced under EHP I and WASH. Others (e.g., information on items 4-8 above) will need to be developed or adapted from other organizations' instruments. In the context of needs identified in the developing world, EHP I and WASH worked in almost all of these areas, so there is a good basis for development of tools. We will seek the necessary guidance through a multidisciplinary TWG, which will be constituted during the first year. The TWG will help us to identify program needs, suggest the direction to take the key factors for programming tools and review the tools. We will share tools widely for others to review, i.e. partners and other international experts. Tool development must be based on field experience. In order to develop the instruments that constitute the tools, we will prepare a report on key factors that should be taken into account to set priorities for local programming.

Milestones:

- Publication of a report on effectiveness and
- Use in Benin and refinement of a participatory, community-based epidemiological survey technique

***Subtask 1B: Determining the effectiveness of community-based environmental management interventions to control vector-borne diseases in Africa, especially urban malaria, and perhaps other regional issues.***

Early in the first year, ECHO/XS convened a TWG on malaria, which CESH shares. TWG members indicated that knowledge about environmental management for vector control is spotty, and there does not seem to be a large amount of literature on community management of environmental interventions for vector control. In order to develop such interventions with communities and other donors (e.g., the World Bank), CESH will prepare a review of experiences in environmental management for vector control (EHP I produced some materials on its experience in Zambia) and will especially consider community-based and participatory environmental management for vector control. Based on the findings and EHP I experience, CESH will identify countries in which to develop interventions for environmental management to control vector-borne diseases.

Milestones:

- Publication of a report on effectiveness and
- Identification of countries for further activity

***Subtask 1C: Developing, in several distinct field settings, effective interventions to reduce children's exposure to particulate air pollution.***

Activities in the first year are focused on a meeting (under Task 2) convened by WHO on indoor air pollution (IAP). CESH will prepare a review paper on programmatic experiences in reducing IAP exposure. Based on the results of the paper and the April 4-5 international meeting on ARI and IAP, we will develop a grants program to implement promising interventions in community settings.

Milestones:

- Publication of a paper on experiences in reducing IAP exposure and
- Participation in the WHO meeting (under Task 2).

***Subtask 2: Collaborate with other international organizations in developing tools to assist in promoting environmental sanitation as national policy; apply those tools in five USAID-assisted countries.***

UNICEF (WES) is developing an inventory of national water, sanitation and hygiene policies and their impact. EHP, under CESH and Task 2, will collaborate with UNICEF, if requested. One of the most pressing policy issues is how to raise policymakers' awareness of the utility and importance of interventions that include infrastructure and appropriate practices in preventing diarrheal disease in children. The EHP consortium, together with partners such as POLICY and UNICEF/WES, will develop an interview guide for use in conversations with policymakers in countries to which consortium members travel as part of the development of a policy dialogue tool. The interview guide aims to assess what information policymakers feel they need to address prevention of diarrhea and in what format. Based on this assessment, EHP will begin development of a policy dialogue tool to advocate for policies supportive of community-based

prevention of diarrheal disease. The tool will be based on quantitative analysis and modeling, but the data will be tailored to each country in which the tool will be used.

Milestone:

- Development and use of the interview guide.

***Subtask 3: Build upon existing approaches and work collaboratively to refine and test community-based methods, including behavior change, to prevent diarrheal disease, malaria, and ARI.***

WASH, EHP I, and other organizations (e.g., UNDP and WHO) have pioneered participatory community-based approaches to prevent diarrheal disease. CESH will draw on this wealth of experience to formulate an approach that is inclusive, flexible, and informed by health communication and social marketing experience. The approach will benefit from and contribute to operations research.

In order to draw from the widest pool of experience in community-based approaches, we will construct a TWG with representatives from many different specialties. The TWG will provide guidance on community-based approaches project-wide. We will also prepare an assessment of experience with community-based approaches in environmental health, environment, and democracy and governance, all areas which can contribute to the CESH approach. The CESH approach will continue to develop throughout the project as more field experience contributes to knowledge of which part of the approach works best for which issue and in which situation. We will use the experience of partner organizations (e.g., UNICEF, WHO, BASICS, CHANGE, PVO/NGO Networks) in developing and sharing the approach.

Milestones:

- Publication of assessment
- Participatory epidemiological survey used to inform community members in Benin (see Benin detailed implementation plan)

***Subtask 4: Use these community-based approaches to improve community sanitation and health in at least three USAID-assisted countries.***



During the first year, we will work in Benin to expand EHP I work with CIMEP to incorporate parts of the CESH approach. We will also conduct at least two scoping visits to other countries to develop additional programs using the CESH approach.

For more detailed milestones, see the Benin detailed activity plan. Milestones include:

- A baseline survey, including participatory epidemiological survey, is completed.
- Baseline data is shared with community.
- A scoping visit is conducted in two countries.

### **3.4.2 Explanation of the Gantt Chart**

The following gantt chart provides details about the first year of activities under this task. It recapitulates in graphic form on a timeline information contained in the above descriptions of subtask components, activities, and milestones. Following the gantt chart is a summary of the FY 2000 budget for this task.

## **4 Environmental Change and Health Outcomes**

### **4A ECHO/IP: Integrated Programs**

#### **4A.1 Introduction**

Task 4 of Task Order 1 is Environmental Change and Health Outcomes (ECHO), and is comprised of four subtasks. Under Subtask #1, EHP will assist in the design, evaluation, and dissemination of lessons learned and support NGOs in implementing field projects that combine community-based natural resource management with interventions to improve health outcomes. Plans for Subtask #1 are described in this section. (Under Subtasks #2-4, EHP will develop methods for performing integrated analysis of epidemiological, environmental, demographic, and other data to improve the prevention and control of malaria, other vector-borne diseases, and other environmental health problems. Plans for this work are described in “4B. ECHO/XS: Cross-Sectoral Surveillance.”)

#### **4A.2 Rationale**

ECHO/IP is defined as an integrated and community-based approach that links natural resource management with health and population interventions. Natural resources include watersheds, forests, arable land, and maritime environments. EHP will partner with organizations that have natural resource management expertise and pursue a dual ECHO/IP strategy that is based on the context of natural resource management as follows:

- Management of natural resources in communities surrounding parks and protected areas to explore programmatic synergies between natural resource management and health/population interventions;
- Management of natural resources in general settings (in- or outside buffer zones around protected areas) to explore the relationship between environmental factors and their impact on health in a broader sense.

EHP has an opportunity to begin ECHO/IP activities under the first scenario in Madagascar. The potential for work within the context of the second scenario will be explored as part of the year-one work plan. Part of this approach will be to look for opportunities for EHP to work with USAID missions where collaboration between environment and PHN activities occurs. (Such joint activities may possibly be implemented through NGOs.)

Health and population interventions can include family planning, reproductive health, child health, HIV/AIDS, and infectious diseases, but EHP will focus on the primary prevention of diarrheal disease, ARI, and malaria. For interventions outside EHP's scope, the project will foster links between communities and existing programs to ensure that required interventions are available.

The main reason for linking such disparate programs as natural resource management with health/population is that the health of families and individuals depends on a healthy community environment. EHP's special focus is on areas where environmental factors and health consequences overlap directly, affecting people's ability to lead productive lives. Moreover, existing population/health programs in communities provide an entry point for protecting the environment, and vice versa. Activities under ECHO/IP (Integrated Programs) will help communities protect environmental resources while maintaining the community's health. *"The central hypothesis is that by integrating health, family planning, and conservation activities in community-based projects we [communities] will be able to take advantage of synergies which will make these interventions more effective and more sustainable than if they were pursued in a vertical, sector-specific fashion."*

While the rationale for linking environmental and health interventions is plausible, benefits remain largely a hypothesis. Only limited factual evidence exists to support claims of greater effectiveness and sustainability. Evaluations of integrated programs have been more qualitative than quantitative and have produced equivocal results, showing sometimes that vertical programs are more effective, and other times, integrated programs. It appears that neither organizations dealing in natural resource management nor those implementing health and population programs have answered the questions raised by the claims of improved benefits from integrated programs.

## 4A.3 Five-Year Overview

#### 4A.3.1 Basic Strategy or Approach

EHP has the opportunity to play a dual role in implementing ECHO/IP. First, EHP will provide technical expertise and leadership for research, evaluation, and dissemination activities. Second, in close collaboration with partner organizations, EHP will coordinate this technical agenda and promote information exchange. To address gaps in knowledge about the effectiveness and sustainability of integrated programs, EHP will focus on operations research, systematic monitoring, and evaluation—including the development of indicators, and documentation of lessons learned through case studies. These intermediate results will enable USAID, EHP, and its partner organizations to advocate for integrated approaches and to support favorable policy changes. Research and evaluation will be carried out in close collaboration with partner organizations that implement integrated programs, including local NGOs that may participate in EHP's grants programs.

In year one, EHP will initiate general activities to develop a conceptual framework and implementation strategy for ECHO/IP and to coordinate with collaborating partners. We will begin to explore synergies between natural resource management and health/population interventions in one or two environmental corridors in Madagascar. In future years EHP is expected to expand its activities to other countries and examine the relationship between environmental factors and their impact on health (with a focus on diarrheal disease, ARI, and malaria) under different scenarios. Depending on the funding situation, EHP may be able to provide greater assistance to NGOs for program implementation than in the first year, along with funding for program design, operations research, evaluation, and dissemination of lessons learned.

Community-based ECHO/IP interventions will rely on participatory approaches developed under WASH and EHP and build upon recent developments in community-based natural resource management. These activities aim at changing behavior at the community level. Initially ECHO/IP activities will rely on operations research to develop sustainable and replicable models of linked community-based programs. Evaluation efforts will concentrate on measuring synergies between programs in quantitative and qualitative terms. This will include comprehensive baseline surveys and outcome analyses to assess the overall effectiveness of linked programs. If the key to integrated conservation and population/health programs is empowerment of communities to address health and environmental issues in a holistic and participatory manner, it may be more important and realistic to expect strengthened community structures as immediate outcomes of EHP activities. Evidence would include the ability of communities to express needs, empowerment of women to make important health related decisions, and fostering participation by women and men in activities that traditionally have a strong gender bias. The measurement of cost and effectiveness of integrated programs will focus on an assessment of their sustainability and the ability of our local partners to scale them up within a country and of international partners to replicate them in other countries.

#### 4A.3.2 Expected Results and Milestones

The EHP II Results Framework for 1999-2004, prepared in October 1998, presents the ECHO/IP activity-level result as follows:

*The effectiveness of linking community-based natural resource management with interventions to improve health, including potential for scale-up involving both NGOs and government organizations, will be determined in several rural settings. [potential partners: G/ENV, AFR]*

This result will be achieved within the dual context of natural resource management in protected areas, for example, in Madagascar, and in more general settings where environmental factors and health outcomes are closely related. The latter may include links between watershed management, water quality and diarrheal disease, or the consequences of inappropriate agricultural and landscaping practices for vector populations and the spread malaria.

EHP will have developed and tested a conceptual framework for integrated community-based natural resource management and health/population programs. This framework provides the scientific basis for the development of an operations research agenda that addresses the most pertinent questions about what type of interventions can be integrated to maximize synergy, how to design effective integrated interventions, and how to ensure community participation. Furthermore, the framework guides the development of indicators and tools to measure

integrated interventions in addition to each of its components (health/population and natural resource management). The development of indicators and M&E tools is related to project-wide M&E activities described under the Policy and Lessons Learned task (Task 2). Through effective coordination, EHP will build consensus about a core set of indicators and tools and promoted systematic monitoring and evaluation of integrated programs among international and local partners.

Through the implementation of field activities and in collaboration with partner organizations EHP will test a small number of effective integrated approaches in different country scenarios. The use of core indicators, assessment tools, and case studies will demonstrate which programmatic combinations produce the greatest synergies and which approaches are most sustainable. The extent to which partner organizations apply the same methods and promote similar integrated approaches will serve as a measure of EHP's success in achieving its results over the life of the project.

#### General ECHO/IP Milestones:

- ECHO/IP implementation strategies developed for natural resource management in protected areas and in other settings. This includes a review of current experiences with integrated programs, especially Integrated Conservation and Development Projects (ICDP).
- Regular meetings with partners to plan and coordinate IP activities
- A small number of model approach(es) for community-based IP developed
- Guidelines for community-based approaches for ECHO/IP developed and disseminated (see also CESH)
- Operations research agenda implemented and results disseminated
- Indicators and assessment tools for IP developed
- M&E guidelines including IP indicators tested and disseminated
- Partners adopt indicators, tools, and model approaches

#### Milestones for country programs:

- [Continued support of ECHO/IP in Madagascar](#)
- [Operations research results used to design programs](#)
- Baseline and follow-up assessments done in several countries
- ECHO/IP implemented in a TBD number of countries
- TBD number of local NGOs receive grants to implement integrated approaches and M&E activities
- Partner organizations implement integrated approach and M&E guidelines in a TBD number of countries
- Lessons learned documented through case studies in countries with EHP assistance
- Lessons learned documented through case studies in countries with partner assistance
- Lessons learned used to support national policies for promoting integrated community-based approaches

Description of key products:

- ECHO/IP strategy paper: lays out the conceptual framework for integrated programs, describes community-based approaches, key intervention areas, and essential activities for EHP.
- IP model approach document: describes the type of environmental and health interventions best suited for integration, implementation approaches through local NGOs, the role and responsibilities of communities, local and national governments, and resource needs.
- Guidelines for M&E methods, instruments, and indicators prepared (see Task 2.)
- Lessons learned document: case study format, background, description of integrated programs and activities, findings from monitoring and evaluation about program effectiveness, sustainability, and ability to scale up, policy changes.

#### **4A.3.3 Explanation of the Gantt Chart**



The following gantt chart should be read as a summary of the basic approach for this task over the five year duration of the project. The chart uses time lines and milestone markers for major activities only. A more detailed gantt chart for the first year of the project may be found in the next section after the descriptions of the subtasks.

## Gnatt Charts

## 4A.4 Plan for FY2000 (Year One)

### 4A.4.1 Description of Subtasks

ECHO/IP is divided into two subtasks in year one.

- Activities under General ECHO/IP Development will focus on the review of experiences with integrated programs, the development of conceptual framework, implementation strategies, and coordination with partner organizations.
- Field activities under ECHO/IP Madagascar will begin with establishing an EHP presence, partnering with a local NGO, and starting operations research and the baseline assessment.

#### ***Subtask 1: General ECHO/IP Development***

As part of the general development of ECHO/IP, EHP has begun to work in partnership with organizations interested in integrated natural resource management and health/population programs, ~~e.g., PVOs, NGOs, foundations, bilateral and multilateral donors~~, to define needs in the development, evaluation and dissemination of interventions that link natural resource management to primary health and family planning activities. Partner organizations are PVOs, NGOs, foundations, bilateral and multilateral donors, for example, Population Action International, World Neighbors, Conservation International, Save the Children, CARE, the CORE Group, University of Michigan Environment Population Fellows Program, the World Bank, and others. -To commence fieldwork in Madagascar, EHP will review current experiences with integrated environmental conservation and health/population programs and draft a conceptual framework. This framework will explain the relationship between health, the environment, and people's livelihood.

Milestones:

- Current experiences with integrated programs in general and in Madagascar specifically assessed

- ECHO/IP implementation strategy draft developed to start activities in protected areas in Madagascar
- Partnership established (forum to plan and coordinate IP activities)
- Indicators for IP drafted in collaboration with partners
- M&E guidelines including IP indicators drafted

## ***Subtask 2: ECHO/IP Madagascar***

Based on assessments and Mission contacts that were made in 1999, field activities are planned to start early in Madagascar in 2000. Activities may occur in one or potentially in two environmental corridors where organizations are already engaged in natural resource management and health/population interventions with USAID Mission support. [Two country visits by EHP and USAID are planned to develop a work plan and provide technical input for the development of specific components. For example, technical assistance will be needed to develop the operations research agenda and community-based approaches for integrated programming.](#) EHP is expected to fund a resident advisor to coordinate field activities and provide technical support to local NGOs. Initially, EHP will rely on NGOs and other organizations to implement integrated programs, and a limited number of grants are available. EHP's role will be to coordinate their community-based efforts in a designated project area and to provide management assistance, documenting results, and implementing operations research and evaluations. The latter includes the collection of baseline data using epidemiological as well as participatory – qualitative - techniques (see Policy and Lessons Learned task, Task 2). [Beside a local NGO as an implementing partner, EHP will work closely with other organizations on the ground, for example, University of Michigan Environment Population Fellows Program, John Snow, Inc. \(JSI\), Landscape Development Interventions \(LDI\), Conservation International \(CI\), PACT, and others that have ongoing natural resource management or health/population activities and have already made grants to local NGOs.](#) Year one funding for Madagascar comes in equal parts from the USAID offices for Health and Nutrition and Population in the Global Bureau. It is anticipated that activities will continue in Madagascar with additional funding in later years.

### Milestones:

- Local EHP presence and partnership with NGO established
- Grant(s) provided
- Operations research agenda developed
- Model approach(es) for community-based IP developed

- Guidelines for community-based approaches for ECHO/IP drafted (see also CESH)
- Baseline assessments done in one country (Madagascar)
- Operations research conducted and results used for program development
- Lessons learned strategy for Madagascar drafted

#### **4A.4.2 Explanation of the Gantt Chart**

The following gantt chart provides details about the first year of activities under this task. It recapitulates in graphic form on a timeline information contained in the above descriptions of subtask components, activities, and milestones. Following the gantt chart is a summary of the FY 2000 budget for this task.

## 4B ECHO/XS: Cross-Sectoral Surveillance

### 4B.1 Introduction

The cross-sectoral surveillance (XS) component of Task 4, Environmental Change and Health Outcomes (ECHO) is comprised of ECHO Subtasks 2, 3, and 4:

Subtask #2: Implement a field-based operations research program to develop and test methods for cross-sectoral surveillance.

*Expected result:* Methods for incorporating cross-sectoral analysis of environmental, demographic, and epidemiological information in integrated surveillance systems, including the use of appropriate mapping techniques, will be developed and field-tested.

*Subtask #3: Develop tools to promote cross-sectoral surveillance as national policy and apply the tools in three countries.*

*Expected Result: International organizations involved in disease surveillance and national ministries of health will support the use of integrated analysis of environmental, demographic, and epidemiological data to better understand the changing patterns of infectious diseases of major public health importance.*

Subtask #4: Institutionalize cross-sectoral surveillance approaches in three countries.  
*Expected Result:* The use of techniques to undertake cross-sectoral surveillance relevant to infectious diseases will be institutionalized in at least three USAID-assisted countries.

These three subtasks are referred to in the following text as “methods development,” “policy advocacy,” and “institutionalization,” respectively.

### 4B.2 Rationale

For many diseases, the geographic and temporal patterns of disease occurrence are related to environmental conditions. This is particularly true for vector-borne diseases, since environmental conditions determine the habitat and activity levels of the vector species and, therefore, the frequency and duration of contact between vector species and human populations. Because of such relationships, integrating the analysis of environmental and demographic data into epidemiological surveillance programs has proven useful for understanding the distribution of, and improving the prevention and control of malaria, onchocerciasis, trypanosomiasis, cholera, and other infectious diseases. We refer to the integrated analysis of environmental, epidemiological, demographic, and other relevant data as “cross-sectoral surveillance,” or “XS,” to distinguish it from traditional health surveillance programs that focus primarily or exclusively on epidemiologic data, such as case reports.

One of the important goals of EHP is to enhance the effectiveness of national malaria prevention and control programs and, thereby, to reduce childhood morbidity and mortality associated with malaria. One of our two strategies for achieving this goal is to develop methods for cross-sectoral surveillance and to institutionalize their use by ministries of health. The other strategy – developing community-based approaches for managing environmental conditions to reduce vector breeding – is part of the CESH program presented in Section 3.

Work under the XS component will generate information to help malaria control programs make better and more effective use of a range of malaria interventions, including source reduction through environmental management, individual protective measures (e.g., bednets, chemical prophylaxis), and case management (choice of antimalarial drugs). “Source reduction” interventions include those that directly reduce the extent of larval habitats (water management, drainage, practices in irrigation, construction, etc.) and pesticide spraying to kill adult mosquitoes. Some source reduction activities can be community-based, with active participation by local residents; this is the niche that will be developed further under CESH.

To improve surveillance systems and support more effective malaria control programs, we will work with national partners to achieve coordinated progress on three fronts:

- improving data collection methods and processes, to enhance the quality and comprehensiveness of essential data sets;
- improving tools for data management, integrated analysis, and mapping, to extract more useful information from the data available; and
- improving the linkage between surveillance and control program operations, to ensure that information gained from surveillance systems is used to improve the effectiveness of control program decisions and actions.

We must work toward these goals in partnership with other international organizations, for several reasons. First, international leadership in the control of vector-borne diseases comes from many sources, including the World Health Organization, the U.S. Centers for Disease Control, the various bilateral donors, and many universities and institutes. There are several international malaria initiatives underway -- e.g., Roll Back Malaria, the Multilateral Initiative on Malaria, and the MARA Project (Mapping Malaria Risk in Africa) – and our work must relate to these structures to have any substantial impact. Second, work on improving the surveillance and control of malaria must proceed within a general programmatic context of health sector reform, under which many national and international institutions are working to decentralize health sector programs and services, promote community-based approaches, and, at the same time, integrate disease surveillance programs. Significant changes cannot take root in malaria programs if such changes are at odds with general trends in the health sector. Finally, in each of the four countries where EHP is already pursuing work on XS (Eritrea, Malawi, Mozambique, and Nepal), there is at least one other international organization also working on malaria. Our efforts will be more effective if we are working in coordination with other institutions active in the same country programs.

The ECHO/XS program will focus primarily on malaria. Once our work on malaria is well underway, however, we will also evaluate the potential for applying cross-sectoral surveillance approaches to other diseases and health conditions, e.g. dengue fever, water-borne diseases, and malnutrition. If it appears that XS approaches can help improve the understanding, prevention, and control of such diseases, we will pursue these additional applications.

### **4B.3 Five-Year Overview**

#### **4B.3.1 Technical Approach**

This section presents a narrative description of the technical approach that will be used to pursue each major part of the XS program.

##### *General Strategy*

Recall that XS includes three subtasks: methods development, policy advocacy, and institutionalization. Also, as discussed elsewhere in this document, we are emphasizing the use of strategic approaches to partnerships, information and communication, and monitoring and evaluation throughout EHP. Each of these six topics is addressed below. Before proceeding to the details, however, it is useful to describe one general aspect of the strategy.



The XS component is a field-based research and development program. This means its participants must keep two perspectives in mind:

- each activity we pursue must be immediately and practically relevant to our country partners, solving a problem to help them be more effective; and
- over time, we must develop a general framework within which the work will proceed, to ensure that the various activities we undertake contribute to a unified set of methods that supports system-level improvements in malaria surveillance, prevention, and control.

These two perspectives must coexist in a productive, dynamic tension. The practical means of reconciling them is through the use of country-specific teams and an XS Technical Working Group (TWG). The country teams will focus on the specific needs of our partners in each country, given their particular circumstances. The TWG will meet periodically to review progress across all XS countries and to develop the general framework. The TWG will include the principal consultants being used in each of the XS countries, plus selected outside advisors and institutional representatives. Our objective is to have a coherent set of methods, policy goals, advocacy tools, training approaches, indicators, etc. that constitutes “cross-sectoral surveillance.” Nonetheless, the development of these products will be driven by country realities, not theoretical constructs, and the resulting “tool box” must be sufficiently flexible to address the varied patterns of malaria and the differing institutional and financial circumstances of malaria control programs.

### *Methods Development*

Under this subtask, EHP will identify or develop appropriate methods for data collection, data base management, integrated data analysis, and mapping. As described above, the work will respond first to the priority needs of specific countries. For example, in Eritrea, EHP has provided training and other technical support for cross-sectional and longitudinal entomologic studies being performed by the Eritrea MOH, and is developing assessment indicators and instruments for the national vector control program. In Mozambique, EHP has worked with MOH partners to develop a data base on recent malaria occurrence in Maputo and map cases at the neighborhood level. In Nepal, EHP is conducting a series of integrated baseline assessments to collect epidemiological, entomological, environmental, and human behavioral data.

Over time, EHP will compile methods for building, maintaining, and using a “Malaria Control Data Resource.” The data resource is envisioned as a dynamic system that will help users maintain essential databases, perform integrated analyses, and map results using a geographic information system (GIS). We expect that the resource will generally be maintained by a central organization (e.g., at the national ministry of health), with appropriate mechanisms to ensure that district- and local-level staff can use the system to support decisions and actions for which they are responsible, as efforts at health sector decentralization push greater responsibility and authority out to the district level.

Although our thinking on this must still be regarded as preliminary, we anticipate that the malaria data resource will support at least three functions.

- Determining the spatial and temporal distribution of malaria vectors and vector behavior, malaria cases, and disease transmission rates, to support resource allocation decisions.
- Determining the distribution of environmental, behavioral, and other variables that have been shown to have an impact on the effectiveness of potential interventions (e.g. spraying, source reduction, bednets, prophylaxis, treatment with anti-malarial drugs), to support decisions regarding which interventions should be used when and where.
- Tracking the status of current disease control operations to support program management.

EHP will work with one or more international partners to develop and test the methods and structure for the “data resource.” Potential partners in methods development include researchers at the Medical Research Council of South Africa, NASA, NOAA, and several universities (LSTMH, Liverpool, JHU, etc.) and research institutions (KEMRI, ICIPE, etc.). Most of the research and development activity will be conducted in field settings through current programs in Eritrea, Nepal, Malawi, and Mozambique, and in other countries to be added.

### *Policy Advocacy*

EHP will work with national and international partners to identify policy constraints that inhibit the adoption and use of cross-sectoral surveillance as part of malaria prevention and control programs, and to develop policies that promote and support the use of XS methods. The policy advocacy component of XS has three objectives:

- MOHs agree in principle to use XS and the information derived therefrom as a strategic element in improving malaria control.
- MOHs commit to providing the human and financial resources needed for building and maintaining systems for data collection, analysis, and mapping, with appropriate, functional access by persons at each level of the program.
- MOHs commit to work with other ministries to improve mechanisms for sharing data and, in the long run, to coordinating development projects and other actions that have a potential impact on the habitat of malaria vectors or the level of human contact with vector species.

As is the case for methods development, work on policy advocacy will proceed on two parallel tracks. EHP will use its experience in the country programs to identify the most important policy issues affecting malaria control, and specifically the use of XS methods, and will work with country partners to address these issues in their unique national context. At the same time, we will attempt to draw general lessons by comparing experiences across countries, using TWG meetings as a convenient forum for reviews and discussion.

Developing strong partnerships with international organizations is especially critical to our success in policy advocacy. Malaria control strategies and interventions are greatly influenced by WHO and others, and the MARA project is already supporting use of GIS for mapping malaria incidence in Africa. Thus, the policy component includes preparation of technical publications, information dissemination, and participation in international conferences, as approaches to building partnerships at the international level and gaining broad acceptance for XS approaches. Also, where other international organizations are active in the same countries where we are working, it is important to establish some common ground regarding the types of policy changes being sought.

### *Institutionalization*

“Institutionalization” means the full adoption and implementation of cross-sectoral surveillance as part of routine operations in a malaria control program. It includes:

- making the data resource operational;
- providing adequate human and technical resources for improving essential data sets and maintaining the data resource (staffing, training, facilities, equipment, etc.), using funds under the control of the national government;

- implementing the XS policy agenda; and
- using the data resource to inform malaria control decisions as part of routine prevention and control operations.

Accomplishing these objectives requires a combination of technical assistance for capacity building (training and collaborative work) and resources for hiring staff, improving data (including field studies to develop original data) and establishing facilities (computers, data networks, etc.). EHP will focus its effort on providing technical assistance for enhancing human resource capabilities. EHP will also work with USAID missions to establish country-level partnerships with development banks, other donors, and development agencies, to pair the technical assistance available from EHP with financial assistance available under bilateral health projects and health sector loans.

### *Partnerships*

As described in several places above, EHP will work to develop partnerships with national, regional, and international organizations in order to support the methods development, policy advocacy, and institutionalization subtasks. In general, we will use three mechanisms for pursuing these partnerships:

- Explicit agreements to work together toward a common goal, with defined roles for each organization (e.g., formal memoranda of understanding that guide coordinated actions over a specified period).
- Invitations to participate on the XS Technical Working Group.
- Loose association and recognition of common interests, through professional contacts at technical conferences, publications, and other means.

We intend to develop a specific “partnership strategy” for XS that lists the organizations with which we will seek partnerships and the purposes and mechanisms for each. Initial input to this strategy was developed during the first TWG meeting in December 1999.

### *Information and Communications*

Each of the preceding sections has mentioned one or more information and communication (I&C) activities. These activities will be pursued in a coordinated manner in accordance with a comprehensive I&C strategy for XS. I&C activities will include:

- active and effective use of the EHP Web Site as a vehicle for attracting people interested in XS and disseminating information on XS activities;
- regular email communications among members of the XS Technical Working Group (TWG);
- an email network of persons interested in XS, as a vehicle for disseminating information;
- technical publications, including an XS Concept Paper, Operations Research Agenda, descriptions of XS methods, technical reports from country programs, and journal articles to report selected accomplishments;
- outreach documents, typically brief summaries of concepts, plans, and accomplishments, suitable for wide distribution to USAID missions, international partners, conference attendees, and others; and
- presentations at selected professional conferences where EHP can best pursue its objectives for establishing and maintaining partnerships with international organizations.

### *Monitoring and Evaluation*

EHP will develop indicators for tracking progress at the national level on the adoption of policies supportive of XS and on the institutionalization of XS approaches. The instruments for collecting data on these indicators will be prepared under the methods development subtask, and will then be applied periodically (at least annually) as part of field activities under the policy advocacy subtask and the institutionalization subtask. Defining an initial list of potential indicators is one of the early products expected from the XS TWG.

### **4B.3.2 Expected Results and Milestones**

This section presents a concise list of the results and milestones anticipated from the XS program.

#### Expected Results:

- Ministries of health will commit resources under their effective control to support the development and maintenance of cross-sectoral surveillance systems and activities.
- Ministries of health and other ministries will improve the quality and completeness of data bases that are critical components of cross-sectoral surveillance systems.
- Ministries of health will make substantial changes in institutional behavior (e.g., in the allocation of resources among locations or the use of specific interventions to prevent or control malaria) that reflect information gained from cross-sectoral surveillance systems and activities.

#### Methods Development Milestones:

- Cross-sectoral surveillance methods for malaria will be developed, tested, and refined.
- The feasibility and likely utility of using cross-sectoral surveillance methods for examining the relationships between environmental changes, natural resource management, and selected health problems (e.g., dengue fever, malnutrition, water-related illnesses) will be determined. As appropriate, cross-sectoral surveillance methods for one or more of these diseases will be developed, tested, and refined.
- Evaluation instruments for tracking the progress of national ministries of health toward the adoption of XS approaches as national policy, and for tracking the institutionalization of XS approaches within disease prevention and control programs, will be developed and tested.

#### Policy Advocacy Milestones:

- A partnership strategy for XS will be developed and implemented, and clear partnerships will be established with national and international organizations to develop, promote, and support XS approaches.
- Effective means of disseminating technical information regarding XS (e.g., technical reports, journal articles, presentations, web sites, etc.) will be developed and maintained.
- Country-specific analyses will be completed to identify policy constraints affecting the adoption and effectiveness of XS systems, and alternative policies that would support the development and use of XS systems will be defined.

- Evaluation instruments will be used to track progress at the national level toward the adoption of policies supportive of XS approaches.

Institutionalization Milestones:

- Training programs will be developed and used.
- Data bases, data management systems, and analytical protocols will be established.
- Reports from data collection, analysis, and mapping activities will be prepared, distributed, and used.
- Evaluation instruments will be used to track progress toward the institutionalization of XS approaches in national ministries of health.

### **4B.3.3 Five-Year Gantt Chart and Explanation**

The five-year summary appears on page 1 of the ECHO/XS Gantt charts. The numbering of tasks (in the Task Name column) reflects the ECHO task and subtask definitions: ECHO is Task 4 of EHP Task Order #1, and the XS program consists of subtasks 2, 3, and 4 (hence 4.2, etc.).

At this summary level, the chart does not contain much detail. The five-year plan does, however, reveal some general aspects regarding the timing and structure of the XS program. Regarding methods development, the five-year plan shows that we will focus our attention first on developing XS methods for malaria (task 4.2.1) and the evaluation instruments that will be used to track the progress of national ministries of health with regard to the policy agenda and institutionalization of XS approaches. Work on XS methods for other vector-borne diseases will start in year two. We will examine the feasibility of developing XS methods for selected non-vector borne diseases during the latter half of year 2, and begin developing methods for these applications, as appropriate, in year 3.

With regard to policy advocacy, task 4.3, we will again focus our attention only on malaria during year 1 of the project. We have a three-step approach for developing our general strategy and materials for promoting cross-sectoral surveillance: prepare a concept paper to articulate the basic concepts underlying XS; define a strategy and indicators for promoting XS-supportive policies; and develop tools (materials) for use in advocacy. Draft indicators and advocacy tools should be ready for testing by the end of year 1.

An important emphasis in years 1 and 2 is developing partnerships with international organizations through direct discussions, attending international conferences, and preparing technical publications. This is included under policy advocacy, because we are unlikely to be effective in promoting XS at the national level without first building support for the idea and methods among international organizations.

Our approach to institutionalizing the use of XS methods also has three steps: define a general strategy and set of indicators for institutionalization, through meetings of the TWG; implement the strategy via country projects; and conduct periodic evaluations to monitor progress. Scoping visits are included under this element to add as many as three additional countries to those in which work is already underway.





## Gnatt Charts

## 4B.4 Work Plan for Year One

The Year One workplan presents additional details regarding the nature and schedule of tasks that will be pursued this year. This version omits lines for tasks that do not begin until year 2 or later (for example, lines 14-23, corresponding to tasks 4.2.2 and 4.2.3). Reviewers should note the following.

- The XS TWG met for the first time in December 1999; a second meeting is scheduled for May 2000. The TWG will address several aspects of the XS component, including defining the operations research agenda and methods development strategy, proposing draft indicators for the policy and institutionalization components, reviewing the XS concept paper, and contributing to the policy advocacy and institutionalization strategies (*see* lines 5, 7, 9, 11, 25, 36, 39, 43, 45, 111, and 113).
- The XS Concept Paper for malaria will be available for distribution early in the 3d quarter of year 1 (*see* lines 34-41).
- Several literature reviews and issue papers will be developed during year 1 to support development of the concept paper and strategies for methods development, policy advocacy, and institutionalization. These will include reviews of current literature on the effectiveness of malaria control interventions, to support definition of the OR agenda (line 6); a review of analytical methods that could be used as a starting point for XS (line 10); an issue paper to help define the policy agenda (line 44); and an issue paper to help define the strategy for institutionalization (line 112).
- Evaluation instruments will be drafted and field tests may begin in year 1. At this point in the program, the instruments will most likely be used to establish information on baseline conditions, as a point of reference for measuring changes over subsequent years (*see* lines 24-27).
- Materials for demonstrating the concept and potential utility of XS methods will also be developed in year 1, for use in the policy advocacy component (*see* lines 50-52).
- A significant amount of effort will be devoted to developing partnerships in year 1. Activities will include direct contacts to identify potential partners, distribute the concept paper, and recruit institutional representatives for the TWG; attendance at several conferences; and preparation of several publications, for internal use within USAID as well as for publication in the technical literature (*see* lines 60-77).

With the exception of lines 110-114, which reflect development of a general strategy for institutionalization, and line 119, which reflects a scoping visit to define initial activities in a

fifth XS country, the balance of the chart (lines 78 – 175) reflects country-specific activities in Eritrea, Nepal, Malawi, and Mozambique.

In Eritrea, EHP is providing technical support for conducting field entomology studies, assessing and improving vector control operations, data analysis and mapping, and revising the national malaria control plan. EHP has also provided one-time-only support for conducting efficacy trials of anti-malarial drugs. We anticipate working with the Eritrean MOH to promote the use of environmental management interventions for reducing vector populations, some of which will most likely be community-based interventions to be developed and tested under the CESH component of EHP. Although a modest amount of work was performed in Eritrea under EHP1, year 1 of EHP2 is essentially the first year of providing support to the Eritrea malaria program.

In Nepal, EHP is working with staff at the Vector Borne Disease Research and Training Center in Hetauda to conduct a series of baseline assessments in which original epidemiological, entomological, and behavioral (ethnographic) data are being collected. Information from these studies will contribute to improvements in control programs for malaria, Japanese encephalitis, and kala azar. EHP is also contributing to the direct support of the VBDRTC and to related training for ministry of health staff. Year 1 of EHP2 is the second year of a planned five-year program of assistance to Nepal.

In Malawi, EHP is providing technical support for gathering basic data on malaria epidemiology, location of health facilities, and environmental conditions, and is helping the malaria control program develop a capability for data analysis and mapping. This work is currently focused in the southern districts of Malawi that share a border with Mozambique. Year 1 of EHP2 is the second year of a planned three-year activity.

In Mozambique, EHP is working with staff in the malaria control program to gather and consolidate malaria case data for Maputo, develop mapping capabilities, and analyze the occurrence of malaria vis-a-vis environmental conditions. We anticipate providing support for similar work in the Zambezia province, which borders on Malawi. Year 1 of EHP2 is the second year of a planned three-year activity.

# Policy and Lessons Learned

## 7 Introduction

Policy and Lessons Learned (a.k.a. Task 2) consists of five subtasks in support of the task's goal to synthesize lessons learned and provide policy support. The five subtasks include the development of a monitoring and evaluation plan, participate in or organize 6 major international meetings, develop five policy reports to support CESH and ECHO results, provide ongoing advice to USAID and lessons learned, and to summarize lessons learned in a final report. A monitoring and evaluation (M&E) plan for CESH and ECHO is developed under Subtask 1, which includes activities related to the improvement of environmental health indicators and M&E methods, performance monitoring, and quality management. Monitoring and evaluation activities directly support policy change and are the prerequisite for providing USAID ongoing advice on lessons learned and updates on the progress of implementing EHP, which is represented in Subtask 4.

## 8 Rationale

Monitoring and evaluation supports EHP to reach its results in two ways. First, M&E are essential to demonstrate the effectiveness and impact of environmental health interventions in quantitative and qualitative terms. Appropriate indicators, evaluation methods and guidelines for using environmental health data for decision-making are needed to meet this objective for clients who are mostly outside EHP. Second, performance monitoring is key to an evidence-based management approach for the project as a whole and CESH and ECHO results specifically. Primary clients for performance monitoring results are EHP management and various USAID offices. Impact evaluation and performance monitoring should be linked by complementing process information with results from impact and effectiveness evaluations using one set of tools.

Little consensus exists on international and national levels about the development and use of environmental health indicators in setting targets and measuring progress. This is due to the lack of valid indicators and efficient data collection mechanisms, especially to measure high-risk behaviors and environmental conditions that impact directly on health outcomes. Improved household surveys are needed to complement other surveys, for example, DHS, with a focus on indicators of hygiene and sanitation practices and environmental conditions relevant to children's health. Although including additional environmental health indicators in the DHS instruments has made progress, they encompass only a few – and not necessarily the most reliable – access and coverage indicators but little about environmental health related behavior change. Moreover, survey approaches should provide information at the local, for example, district, level, while DHS allow regional estimates at best. In addition to epidemiological data, measurements of local and national capacity to implement environmental health interventions and of community roles and participatory processes are needed to fully assess the effectiveness of environmental health programs. EHP's role is to develop and test indicators and data collection methods that meet these needs, to make them available to international and national organizations, and to provide selective technical assistance for their application.

While experience exists with diarrheal disease related indicators, relatively little is known in areas that are new to EHP, especially integrated approaches that combine natural resource management with health and population interventions under EC HO/IP. Before indicators and methods can be developed that effectively measure changes in the environment, health outcomes (diarrheal disease, ARI, malaria) and synergies between environmental and health interventions, EHP will advance a conceptual framework and strategy options. Specific indicators and M&E tools will be developed and tested based on a framework that shows how risk factors and interventions are linked in the areas of environment, health and livelihood.

Performance monitoring is the center for EHP's evidence-based planning and management of all tasks and activities. While improvements in the evaluation of effectiveness and impact target organizations that implement environmental health programs, performance monitoring addresses needs internal to the project and USAID. A monitoring and evaluation plan is needed for all tasks, especially for CESH and ECHO activities, to systematically measure and routinely inform EHP management (USAID and the EHP II team) about the timely implementation of project activities and delivery of products that are necessary to accomplish results. Where feasible, performance should ultimately be measured as impact or program effectiveness using the results from methods described earlier. The implementation of the M&E plan should be guided by a quality management process that assures not only that work plans are realized, but that the products meet technical standards of an acceptable level.

Information made available through monitoring and evaluation, including performance monitoring, is an important element of gathering lessons learned. Convincing lessons learned are needed to support policy change and to promote the design of effective environmental health programs. Too few case studies exist in the environmental health field that support success stories with facts by combining anecdotal evidence with data from program evaluations and performance monitoring. Especially the ability to sustain effective environmental health interventions and health benefits with locally available resources and to scale up programs nationally and internationally remains poorly documented.

International meetings provide opportunities to develop consensus and characterize demand for EHP tools and products, and to shape the scope of work for operations research and for those tools and products. During the first two years of the project, we will engage in international meetings with this specific purpose – in order to inform the development of EHP activities in a way that will maximize the ultimate impact on public health practice. In subsequent years, meetings will provide opportunities for disseminating results and products from EHP activities.

International meetings are a part of an overall partnership strategy for the EHP. Under this subtask, the overall project partnership strategy will be developed, and specific activities to support international-level partnerships will be undertaken. The project partnership strategic

approach includes partnerships at the local, national, regional and international levels for collaboration, coordination, and to both inform the agenda and increase the demand for, and ultimately the public health impact of, EHP activities.

Policy reports may be products of international meetings, or the product of CESH or ECHO activities, or may be reports developed independent of these other Task Order 1 activities, but focussing on issues that are arising with a view of influencing the future agenda of environmental health. During the first two years, policy reports will focus on summarizing current knowledge in a way that provides the basis for advocacy to include environmental health in child health programs. There are no policy reports planned for year one.

## 9 Five-Year Overview

The overall result of the Policy and Lessons Learned task is that lessons learned have been documented in important environmental health areas (CESH and ECHO) and that they have been used successfully to support national policies in several countries. Successful policy support should be in evidence through appropriate programmatic priorities and changes in resource allocation. Specific results will be achieved for each subtask under the Policy and Lessons Learned.

### Basic Strategy or Approach

The results under each Subtask require specific implementation strategies that are described below.

#### *Strategic partnerships*

To be able to advance the state-of-the-art in measuring the effectiveness and impact of EH interventions EHP will collaborate with USAID funded projects and other organizations that have relevant expertise and similar needs. Contacts have already been established with MACRO



and UNICEF; BASICS, WHO and others will be approached during the first three months of this work plan. Such partnerships will be even more essential to reach EHP's goal of making M&E methods and tools available to a wide audience and to promote their use nationally and internationally.

### *Operations research*

Environmental health indicators and evaluation methods will be developed and tested using operations research (see CESH and ECHO). This includes focus groups to refine questions about household-level behaviors and environmental factors. Further test of these revised questionnaires should establish the sensitivity and validity of core EH indicators. A formative process will also be necessary to develop reliable tools for assessing community and institutional capacity and policy reform as it relates to environmental health.

### *Simple, affordable, reliable*

EHP will ensure that indicators are useful, which means that they are easily understood, apply to different program settings (they are not tied to special circumstances), and have practical relevance in programmatic and policy decisions. To cover the full spectrum of program outcomes and processes monitoring and evaluation methods will combine quantitative and qualitative techniques and integrate various health and environmental factors. These methods will be affordable by adopting a rapid approach that is reliable and yields valid data. Whenever feasible EHP will improve existing methods and develop new ones only to fill gaps.

### *Information for programmatic and policy decisions*

The ultimate purpose of developing and testing of EH indicators and M&E methods is the use of the data collected, as part of lessons learned, for making programmatic decisions and for supporting EH policies. Therefore, indicators and methods will include guidelines for using information in the environmental health context and the type of decisions that should be supported by data and lessons learned.

### *Performance monitoring*

To improve the completeness, timeliness and relevance of information for project management EHP will implement a performance monitoring system that systematically plans monitoring

activities and regularly tracks project achievements. This system relies on three core elements: a M&E plan for CESH and ECHO and other TO1 tasks, a results tracking database, and progress reports (activity and financial). These are implemented through policies, procedures, and a quality management process. The M&E plan is an integral part of the work plan and specifies performance indicators for activities and tasks, data sources and M&E activities necessary to collect data. Many performance indicators and M&E activities will focus on EHP processes and products. However, when appropriate they will include indicators of effectiveness and impact of environmental health interventions. Internet communications technology (MS-Access and eRoom) will be used to improve the timeliness and completeness of results tracking and technical reviews as part of the quality management process.

### Subtask 1 Results and Milestones: M&E Plan for CESH and ECHO

The EHP II RFP, proposal and contract seem to suggest three results for Subtask 1. EHP should demonstrate that EH indicators and monitoring and evaluation methods can reliably measure the outcomes of EH interventions under CESH and ECHO. At the same time, this will show whether these interventions have been implemented effectively. Once consensus has been reached about EH indicators and monitoring and evaluation methods have been tested successfully, a use by various EHP partners should materialize. The third result focuses on performance monitoring that is more internal to the project.

*Result A:* Assessments using core EH indicators and evaluation methods and tools demonstrate that specific EH interventions related to CESH and ECHO can be implemented effectively, including their relative effectiveness, that effective interventions are sustainable, and that they can be brought to scale in a supportive policy environment.

*Result B:* An increasing number of organizations on international and national levels uses a core set of environmental health indicators and data collection methods that have been developed, tested and disseminated by EHP in collaboration with other partners for planning, managing and evaluating environmental health programs.

## Milestones:

- Core set of environmental health indicators developed
  - Household level behaviors and environmental conditions
  - Community capacity and participation in implementing EH actions
  - Institutional capacity in planning, managing and monitoring EH programs
  - Policy change for community-based EH
  - Core indicators for cross-sectoral surveillance
  - Institutional capacity in cross-sectoral surveillance
  - Policy change for VBD control including cross-sectoral surveillance
- Core set of environmental health indicators tested
- Consensus on a core set of environmental health indicators reached
- Set of evaluation methods for environmental health developed
  - Community self-monitoring tool
  - Household survey (tool to assess the relative effectiveness of EH interventions)
  - Community capacity and participation assessment
  - Institutional capacity assessment (CESH and ECHO)
  - Policy assessment (CESH and ECHO)
- Set of evaluation methods for environmental health tested
- Set of evaluation methods finalized for dissemination
- Impact evaluation guideline finalized for publication
- Impact evaluation completed using guideline (under CESH and ECHO)
  - Baseline assessment done
  - Follow-up assessment done
  - Final impact evaluation report done

#### Description of key products:

- A handbook or thesaurus of environmental health indicators that defines these indicators, describes data sources and uses for programmatic and policy decisions.
- Manuals and instruments for each evaluation method.
- Technical reports (co-published with other organizations and USAID projects whenever possible) that describe the findings from testing or applying each evaluation method.
- Articles submitted to peer review journals describing selected experiences.
- Impact evaluation guideline that describes principles, approaches, indicators, and data collection instruments.

Result C: EHP management uses performance monitoring information and quality management processes routinely to assure the progress of work plan implementation and the quality of its products.

#### Milestones:

- Performance monitoring indicators finalized and agreed upon
- M&E plan for CESH and ECHO developed
- M&E activities incorporated into annual EHP and country work plans
- Performance monitoring system implemented
  - Activity reports available on EHP management web site (eRoom)
  - Results tracking database operational
  - Quarterly reports completed by activity managers and project
  - Annual Performance and Milestone Reports
  - Monthly management reports including financial

## Description of key products:

- The M&E plan lays out what gets measured, when, how, for what costs, and by whom. It specifies performance indicators including targets, milestones and essential products for all tasks, especially CESH and ECHO results. Indicators follow the hierarchy of tasks and activities relating them directly to work plan elements. The M&E plan indicates also how the performance will be evaluated.
- Results Tracking Database includes essential information about activities, a brief description of accomplishments, and performance indicators, including impact and effectiveness indicators were appropriate.
- Quarterly Activity Reports consist of a summary of activities and accomplishments that is provided by the Results Tracking Database and complemented by a project-wide assessment of progress.
- Annual Performance Report is similar in format to the Quarterly Activity Report but with a more in-depth analysis of project achievements.
- Quality Management process documented in EHP policies and procedures.
- Technical reports that describe the findings from impact evaluations.
- Articles submitted to peer review journals describing selected experiences.

## Subtask 2 Results and Milestones: Partnership and International Meetings

Result A: A partnership strategy will be developed and implemented.

Result B: The EHP will organize and/or participate in six international meetings.

### Milestones:

- Partnership Strategy drafted and implementation plan revised yearly
- EHP participates in six major international meetings

Description of key products:

The partnership strategy is described under year one activities. The strategy will be reviewed and updated yearly, as a part of the annual work planning process. Implementation of the strategy will continue throughout the life of the project.

### Subtask 3 Results and Milestones: Policy Reports

Result A: The EHP will develop and publish Five major policy reports

#### Milestones:

- Five reports published

### Subtask 4 Results and Milestones: Lessons Learned and Progress Update

Results under Subtask 4 seem to fall into two categories. First, relevant lessons learned have to be assessed and used to support the development of EH policies. Second, these lessons learned have to be useful to USAID to advocate for environmental health solutions.

Result A: Lessons learned have been documented in the most relevant environmental health areas and have been used by EHP to develop and promote model policies on national and international levels.

#### Milestones:

- Agreement on key lessons learned areas reached
- Case study format developed
- Case studies from a TBD number of countries prepared
- TBD number lessons learned reports prepared
- Lessons learned presented at international meetings (at least 5)

#### *Description of key products:*

- Case study reports following a standard outline.

- Lessons learned reports present key findings including information from the EHP performance monitoring system, evaluation of the effectiveness and impact of EH interventions, and on-site stakeholder or key informant interviews and program reviews.
- TBD number of articles for peer review journals presenting the most salient lessons learned.

Result B: Lessons learned have enabled USAID (G/PHN/HN and Missions) to promote state-of-the-art environmental health programming and to advocate the implementation of best practices.

Milestones:

- Lessons learned dissemination strategy developed
- Lessons learned presented to USAID (at least 3)
- Best EH practice briefs prepared (at least 3)



Description of key products:

- Lessons learned dissemination strategy is described under the Information Center (Task 6).
- Model format for best EH practices briefs.

#### Subtask 5 Results and Milestones: Final Report on Lessons Learned

No activities in years 1 through 4.

### **5.3.7 Explanation of the Gantt Chart**

The following gantt chart should be read as a summary of the basic approach for this task over the five year duration of the project. The chart uses time lines and milestone markers for major activities only. A more detailed gantt chart for the first year of the project may be found in the next section after the descriptions of the subtasks.



# 10

## Plan for FY2000 (Year One)

Milestones and products that have been described under the five-year section above, because monitoring and evaluation, partnership and meetings, and lessons learned activities will be carried out over the life of the project. The year-one work plan shows activities in greater detail as well as their corresponding budgets.

### Description of Subtasks

#### ***Subtask 1: M&E Plan for CESH and ECHO***

Activities under subtask one will focus on three areas:

- Indicator, M&E Tools and Guidelines development
- Performance Monitoring, including development and implementation of M&E Plans for CESH and ECHO with baselines and various reports, technical reviews of CESH and ECHO products
- Development of a results tracking database

#### ***Indicator and M&E Tools development***

CESH and ECHO interventions could relate potentially to a large number and very diverse indicators, for example, morbidity (diarrhea, ARI, malaria), behavior change, access to water and sanitation services, community participation, institutional capacity, and many others. Therefore the development or refinement of indicators and building consensus with international partners will be approached in a stepwise process, starting with indicators related to diarrheal disease that are already widely used. Because indicators are closely related to M&E tools that collect necessary data, the tools development follows a similar stepwise process building on assessment instruments related to water, sanitation and hygiene that were used under EHP I. To ensure that indicators and tools are relevant and practical, EHP will adopt a field-based development process, and integrate these activities tightly with operations research under CESH and ECHO. For example, the refinement of indicators and tools related to diarrheal disease will be done in conjunction with the development of an instrument to assess the relative effectiveness of diarrheal disease interventions under CESH Subtask 1a. Because this instrument will potentially

serve a dual purpose – assessing risk to inform programmatic decisions, and measuring program impact – it will serve as a basis for the impact evaluation handbook that was begun under EHP I.

#### Milestones:

- Draft of a core set of environmental health indicators for diarrheal disease developed (see CESH Subtask 1a), including:
  - Diarrheal disease morbidity, household level behaviors and environmental conditions (epidemiologic assessment tool)
  - Community capacity and participation in implementing diarrheal disease prevention interventions (participatory assessment tool)
  - Institutional capacity in planning, managing and monitoring diarrheal disease prevention programs (institutional capacity tool)
  - Policy change for community-based diarrheal disease prevention (diarrheal disease prevention policy score)
- Draft of a core set of indicators for cross-sectoral surveillance for malaria control programs developed (see ECHO/XS Subtask 1), including institutional capacity in cross-sectoral surveillance
- Draft of a conceptual frame work to explore the relationship between environmental factors and health outcomes (diarrheal disease, ARI, malaria) developed
- Based on this framework a core set of indicators for integrated natural resource management and health/population programs developed (see ECHO/IP Subtask 1)
- First draft of epidemiologic diarrheal disease assessment, participatory assessment, institutional capacity, and policy score tools developed and tested in a CESH and ECHO/IP country (e.g., Benin and Madagascar)
- Based on these tools impact evaluation guideline finalized
- Based on epidemiologic and participatory assessment tools a community self-assessment approach developed
- Performance monitoring and baseline surveys see five-year milestones

#### ***Subtask 2: Partnership and International Meetings***

Result A: A partnership strategy will be developed and implemented.

Result B: A policy meeting on Indoor Air Pollution and Health will be held, and the EHP role in a consensus agenda will be specified.

Result C: Background work, including partnerships, agenda setting, and two background papers will be developed for a meeting to be held in early FY2: “Diarrheal Disease Programming in the 21<sup>st</sup> Century”.

Milestones:

- Partnership Strategy drafted
- Electronic Meeting with Partners held
- Background Papers prepared for the ARI meeting
- IAP and Health meeting held
- Background papers for the diarrheal disease meeting prepared

Description of key products:

The partnership strategy lays out the main objectives of partnership, the key players and contacts, the roles, responsibilities, and time line for specific partnership activities among EHP staff, consortium members, and the USAID EHP team.

The electronic meeting with partners will provide a forum for discussion and development of a consensus plan around key issues of common interest in environmental health and child health that have been identified during individual meetings with partners.

Two background papers will be prepared for the ARI meeting. The titles are:

“Overview of household energy and Health” including the historical context, trends in exposure, and linkages with environment, energy, health and development and

## “Model for economic analysis of indoor air pollution impacts and interventions”

The EHP will collaborate with WHO to support a meeting titled “Household Energy and Health” that will be held in Washington, DC on 4 – 5 April, 2000. The EHP will provide both logistical and technical support to the meeting. The purpose of the meeting is to develop consensus among key players in the child health community about the importance of pursuing an agenda of reduction of exposure to indoor air pollution in order to decrease ARI, and to develop a series of next steps, including operations research, in order to move in a concerted effort toward programs aimed at ARI reduction through the reduction of environmental risks. One output will be consensus around the role that the EHP will play in operations research, and the specific definition of the research question (see CESH).

A meeting will be organized in collaboration with partners to bring together diarrheal disease experts and child health program managers to analyze and articulate what more needs to be done to further reduce mortality related to diarrhea. The purpose, from the EHP point of view, is to increase the recognition within the child health community that diarrhea prevention is a compelling priority, and to define next steps to increase the level of effort and effectiveness of diarrhea prevention activities within child health programs. As a part of the planning process, the specific topics of background papers to be developed by the EHP will be determined. Two papers will be developed this year, with the meeting to be held in the next fiscal year. Candidate subjects include an analysis of current diarrhea prevention programs compared to what scientific evidence suggests would be effective; an analysis of potential routes of transmission of diarrhea, and what we know and don’t know; or more general papers such as the transition in the causes of diarrhea related mortality and its implications for changing approaches to reduce diarrhea related mortality.

### ***Subtask 3: Policy Reports***

No activities in year 1.

### ***Subtask 4: Lessons Learned and Progress Update***

EHP staff will participate in various technical meetings and prepare appropriate quarterly reports and other briefing documents as necessary to keep USAID project management informed of project progress and important lessons learned. After agreeing on a lessons learned strategy a format for case studies will be drafted. Based on year-one field activities at least one case study will be initiated under CESH or ECHO.

Milestones:

- Three quarterly reports prepared
- Case study format drafted
- Case study in a CESH or ECHO country started

#### **5.4.2 Explanation of the Gantt Chart**

The following gantt chart provides details about the first year of activities under this task. It recapitulates in graphic form on a timeline information contained in the above descriptions of subtask components, activities, and milestones. Following the gantt chart is a summary of the FY 2000 budget for this task.

## **6 Information and Communication**

### **6.1 Introduction**

Task 6 in Task Order #1 is to establish an information center to support all other tasks and to disseminate contract products. EHP II starts with an already functioning information center known as the ICU (or “Information and Communications Unit”). The work plan below reflects the desire to retain those ICU activities and procedures that have been effective in the past while at the same time making fundamental changes to operate more strategically and efficiently and in greater partnership with other organizations.

# **11**

## **Rationale**

The relatively modest resources available to EHP II mean that the project in and of itself will not make much of a dent in improving child health. But, to the extent that the project has an impact on how other organizations program and allocate funds, it can help reduce the burden of disease for children under five. The Information Center has a key role to play in assuring that the “pilot” efforts of EHP become known and are adopted.

# **12**

## **Five Year Overview**



### **6.3.1 Basic Strategy**

The basic strategy of the Information Center is to assist the TMC to make information dissemination an integral part of EHP's activities to achieve results. Information Center activities will be closely aligned with and supportive of Policy, CESH, and ECHO strategies.

The Information Center strategy will be carried out by

- Providing consistent, high-quality information support to EHP and USAID (publications support and dissemination, information database and library, electronic networks, etc.).
- Actively seeking ways to promote environmental health; disseminate project results, approaches, and lessons learned; encourage collaboration; and meet the needs of diverse audiences.

The basic approach for implementing the strategy is to use the EHP web site as the principal mode of communication and dissemination of information. In addition, the Information Center will actively seek partnerships with other environmental health information centers, track the impact of its products, and readjust its strategy based on feedback. A special effort will be made to reach out to audiences in developing countries.

Information Center activities are organized under four subtasks:

1. Assist in the implementation of Policy, CESH, and ECHO.
2. Establish an EHP task database.
3. Develop partnerships in information dissemination.
4. Provide information and dissemination services.

### **6.3.2 Expected Results**

The Information Center will strive to achieve four key results, one for each subtask. These are given below. The accompanying indicators may be refined and expanded when the EHP monitoring and evaluation plan is finalized.

1. Organizations working in environmental health have received key information about CESH and ECHO approaches, results, and lessons learned in formats they find effective.

Indicators:

- CESH and ECHO reports and other materials planned are completed.
- Varied formats and media are used to disseminate them.
- Dissemination strategies are planned and carried out.
- Requests for key CESH and ECHO materials increase.
- Feedback on CESH and ECHO information from key recipients is positive.

2. USAID and EHP staff are able to prepare and disseminate up-to-date, reliable information about EHP activities and results in a timely manner to the wider development community.

Indicators:

- The database is established.
- Information on activities and results is updated monthly.
- Information from the database is available on the EHP web site.
  - The database is used to answer requests for information from the Office of Health and Nutrition.
  - The database is used to generate material for the EHP reports and publications, including web site features.

***3. Resources for information dissemination in environmental health have been leveraged through collaborative activities.***

Indicators:

- At least five collaborative arrangements are formalized, including collaborations that (1) share information resources, (2) avoid duplication of effort, (3) extend EHP outreach and visibility, and (4) produce joint products.
- New, more effective approaches directly resulting from partnerships are adopted by the Information Center.

4. The Information Center has increased the effectiveness and efficiency of its operations, as compared with EHP I.

Indicators:

- Electronic dissemination of products increases by 50% by the end of EHP II.
  - Number of visitors to the EHP web site from developing-country organizations increases steadily from quarter to quarter.
- Policies and procedures on report preparation are complied with in most cases.
- The EHP web site is updated monthly.
  - The EHP newsletter, Capsule Reports, and project one-pagers are published according to schedule.
- Feedback on the Information Center is positive.

If these results are achieved in concert with the EHP CESH and ECHO strategy, the following overarching result will also be achieved:

USAID missions and bureaus and USAID partner organizations have allocated increased resources for incorporating environmental-health-related activities in their Child Survival programs, as evidenced by

- An increase over the course of the project in funds put into EHP by missions.
- Mention of environmental health in PHN Center strategic plans and other key documents.
- Leverage of funds from other organizations for environmental health activities.

### **6.3.3 Milestones**

Five-year milestones are as listed below. Due to the summary nature of the Gantt chart and the large number of individual activities under Task 6, most of these milestones do not appear on the chart.

- Full development of the EHP web site in year two, including Spanish and French sites.
- Maintenance and monthly updating of the EHP web site.
- Establishment of one collaborative arrangement per year.
  - Publication of (1) two or three issues of the EHP newsletter per year, (2) Capsule Reports in years two through four, and (3) lessons learned documents in year five.
  - A mid-term evaluation of hardware and software needs and Information Center procedures and results. Throughout the life of the project, the Information Center will periodically look critically at its own operations, seek advice from key audiences, and make necessary adjustments.

#### **6.3.4 Explanation of the Gantt Chart**

As shown in the five-year Gantt chart below, most Information Center activities are ongoing. Although this is not reflected in the chart, the emphasis of Information Center activities changes as the project matures. In the first year of the project, for example, information gathering, exploring collaborative possibilities, and systems development will be emphasized, while full implementation of systems, dissemination of tools, approaches and lessons learned, and implementation of collaborative activities will take place in subsequent years. Please note that, given the importance the Information Center is placing on the role of the EHP web site and the extent of the changes and innovations, web site development is divided into two phases, with the second phase taking place in year two.



## **6.4 Plan for FY2000 (Year One)**

### **6.4.1 Description of Subtasks**

#### ***Subtask 1: Assist in the Implementation of Tasks 2, 3, and 4 (Policy, CESH, and ECHO)***

First and foremost, the Information Center will carry out activities in support of the work of Policy, CESH, and ECHO. These support activities fall into several categories, listed below in the general order in which they will take place. The Information Center will

- Gather information on key topics, audiences, relevant organizations, etc.
- Support meetings, brownbags, and conference participation.
- Develop new audiences/constituencies.
- Support collaborative activities.
- Disseminate information on progress of Policy, CESH, and ECHO activities.
- Facilitate the production and dissemination of tools, approaches, results and lessons learned, and other strategic publications.

While subtask 1 is specifically designed to support Policy, CESH, and ECHO, all subtasks under Task 6 ultimately contribute to the success of these programs. For this reason, some activities are listed more than once in the Gantt chart at the end of this section.

#### ***Subtask 2: Establish an EHP Task Database***

The three databases mentioned in the proposal (an EHP task database and databases to track EHP results and country programs under Policy, CESH, and ECHO) will be incorporated as the Project Monitoring and Evaluation database to be developed under Task 2 of Task Order #1. The Information Center will support maintenance of this database and use it for reporting on EHP activities and results and to respond to requests for information about certain types of activities or results, activities in certain regions or countries, etc. A feature to be established on the expanded EHP web site, "Activity Update," will be generated by this database. It will make

available to visitors to the site a list of EHP activities with brief descriptions, reports available on them, major results achieved, etc.

### *Subtask 3: Develop Partnerships in Information Dissemination*

Developing partnerships and collaborative activities is an integral part of EHP strategy for all tasks. Through partnerships, resources are leveraged and programs are enriched by mutual contacts. The Information Center will actively seek to establish collaborative efforts with other organizations engaged in the dissemination of environmental health information to share resources and to learn about new solutions and approaches to strategic information dissemination.

Several organizations have expressed an interest in partnership and collaboration with the EHP Information Center. These will be the first to be contacted to explore common and complementary activities and possibilities for joint action. The current list of target organizations is given below.



CDIE	BASICS	CORE Group	WELL
GARNET	IRC	UNDP/WB WS&S	VBDRTC
RBM	WHO WS&S	WHO (IMCI)	AFR Bureau
WHO Surveillance	ICIPE	CDC	UNICEF/WES
WHO/AFRO	WHO/PHE	IDRC	ITDG/UK
PAHO	JHU	NIEHS	WHO Emrg. diseases

Possible partnership activities include joint publications, contributing to one another's newsletters and e-mail bulletins, making EHP information available on one another's web sites, sharing access to resources for writing, editing, translation, etc., joint sponsorship of information-sharing networks, joint sponsorship of on-line conferencing, and so on.

While the organizations to be contacted regarding possible collaboration are specified in the Gantt chart, every attempt will be made to take advantage of targets of opportunity as they arise and not to stick religiously to the list.

#### *Subtask 4: Provide Information and Dissemination Services*

ICU is a clearinghouse for information about developing country environmental health. By providing worthwhile services, it has gained a reputation for excellence reaching back to the precursor WASH Project. With the rapid expansion of internet-based communication, opportunities to increase the reach, effectiveness, and efficiency of EHP information services have grown. The Information Center hopes to take advantage of them throughout EHP II.

The routine work of the Information Center is to provide services to increase the understanding of effective environmental health approaches, especially among PHN personnel, mission and bureau personnel, and USAID partners. Policy, CESH, and ECHO programs will develop information, tools, approaches, and models for policymakers and practitioners in USAID and USAID partner organizations. The Information Center's complementary role is to provide technical information backstopping for these efforts and to assure that the resulting products are attractively presented in user-friendly formats and disseminated to the appropriate audiences.

The Information Center's approach to service provision is to retain the services that have been successful in the past and to introduce new activities to address past deficiencies and to keep pace with advances in technology.

Innovations include:

- Development of an all-new, expanded EHP web site with several new features, among them: Who's Who in International Environmental Health, What's New at EHP, Question of the Month, Activity Update.
- Introduction of EHP web sites in French and Spanish, including more products available in those languages.
- Transition to electronic dissemination.
- Greater involvement of the TMC to assure relevance of Information Center activities and publications and greater involvement of the Information Center Coordinator in development of dissemination plans for CESH and ECHO.
- A greater strategic focus to Information Center activities.

While these innovations are being introduced, the Information Center will continue to

- Provide technical information and reports to priority audiences and referral services to non-priority audiences.
- Maintain a library and information database.
- Publish and disseminate strategic information on key topics in varied formats.
- Maintain information-sharing networks.
- Provide access to design, editorial, production, translation, and dissemination services.
- Maintain specialized EHP contact lists.
- Maintain report archives and bibliographic databases.

#### 6.4.2 Explanation of the Gantt Chart

The principal agenda for the Information Center in year one, as shown in the Gantt chart, is to

- Gather information on key technical topics and relevant conferences and to reach out to possible partners.
- Begin, by the end of the year, to disseminate information about Policy, CESH, and ECHO activities.
- Prepare for future publication and dissemination of strategic publications.
- Assist in establishing the monitoring and evaluation database.
- Explore opportunities for collaboration with six or seven other information centers.
- Establish a new EHP web site.
- Increase access to information on key topics for CESH and ECHO.
- Develop revised Information Center policies and procedures.
  - Publish key start-up documents: a brochure, two issues of a revamped *EH&P*, project activity one-pagers.
- Set in motion plans for increased electronic dissemination.
- Maintain ongoing and establish new information-sharing networks.

Throughout year one, the Information Center will provide its routine services with an emphasis on increased efficiency.

Milestones are shown in the Gantt chart. Several are associated with establishment of new policies, procedures, and approaches and initiation of an improved and expanded EHP web site, including new features or pages. The most important of these is the International Environmental Health Who's Who. All publications initiated by the Information Center are listed as milestones. Finally, an assessment of past EHP publications and outreach documents by three focus groups must be considered a key milestone because it will help the Information Center to assess past products and practices and to make changes to increase effectiveness.













## Other Activities

The Environmental Health Project (EHP) has been asked by a number of missions and bureaus to provide assistance under Task Order #1 that does not clearly fit under CESH and ECHO. These activities are included in this section of the annual plan. The mission/bureau activities include: 1) USAID/Peru—a follow up to a lead poisoning assessment; 2) USAID/Latin America and Caribbean (LAC) Bureau—decentralization of water and sanitation systems; 3) USAID/South Africa Urban Programs Office—capacity-building activity with the Bushbuckridge Water Board; 4) USAID/Dominican Republic—decentralization of rural water supply and sanitation services; and 5) USAID/Morocco – Childhood Environmental Health Disease Risk Factors Assessment.

The following sections give a brief description of each of these five activities, along with their time line schedules and a level-of-effort and budget summary sheet.

# 13

## Peru

As part of the activities related to removing lead from gasoline, the Peruvian government proposed the implementation of a blood-lead survey to evaluate current lead exposure in Lima and to obtain baseline data to monitor changes in blood associated with the phase-out of lead. USAID/Peru provided technical assistance to the General Directorate of Environmental Health (DIGESA) to develop the blood lead study protocol and provided necessary sampling equipment and supplies.

The purpose of this activity is to provide logistical support and technical assistance to the Environmental Health Division of the Peruvian Ministry of Health (DIGESA/MOH) in its efforts to implement the follow-up plan to clarify the sources of lead contamination and the extent of the health problem in Callao, and to develop the appropriate short- and long-term interventions to reduce lead exposure in this area.

# 14

## LAC/Decentralization

From May 1998 to June 1999 EHP implemented a regional activity, funded by the Joint Action Incentive Fund, on the decentralization of water and sanitation systems in Central America and the Dominican Republic. The objectives of the activity were to provide technical assistance to selected missions, promote sharing of experiences among Central American countries, draw lessons learned, and disseminate those lessons learned. The activity resulted in a solid understanding of the current situation in decentralization of water and sanitation services in the region, in furthering the process of decentralization in El Salvador and the Dominican Republic, and in identifying a network of individuals and organizations interested in decentralization.

The overall purpose of this activity is to advance the understanding and implementation of decentralization of water and sanitation services in Latin America by developing several key documents and actively disseminating experiences and information.

The specific objectives are the following:

- Document and share successful practices in the region in the decentralization of water and sanitation systems.
- Develop guidance on how to address health and environmental concerns in decentralized water and sanitation systems.
- Provide modest support to one or two missions in South America interested in decentralization.
- Disseminate information to USAID, other donors, and host country partners.

# 15

## South Africa

Since September 1997, EHP has been providing technical assistance to USAID/Pretoria under funding provided out of the Urban Programs Office in the Mission. The Government of South Africa, through the Department of Water Affairs and Forestry (DWAF), has been attempting to transfer water supply services to local authorities since the change in government brought about by President Mandela's assumption of office in 1994. As a result of this policy, the Bushbuckridge Water Board (BWB) has been established and is beginning to develop the capacity to provide bulk water to the Bushbuckridge, Hazyview, and North Nsikazi area in Northern Province and Mpumalanga Province. USAID/Pretoria, in collaboration with local partners such as RAND Water, is attempting to address the need to build local capacity to manage the provision of retail water services.

At the request of USAID/Pretoria, EHP consultants have been working with the BWB, RAND Water, and other local partners to develop the necessary institutional capacity to assume full responsibility for the management of water services. Activities to date under EHP II have included assistance to the BWB in revising a grant proposal, and assistance to a local NGO in the development of a public awareness campaign for cost recovery. The Mission, in close consultation with local partners, will identify additional needs for ongoing EHP technical assistance, such as workshops and training of local staff. This work will take place throughout calendar year 2000.

# 16

## Dominican Republic

During 1997, with technical support from EHP, USAID/DR was successful in disseminating to the GODR the "total community participation" model for the delivery of WS&S services to rural communities. Second, it supported INAPA, the National Water Supply and Sanitation Utility, in strengthening and organizing its rural WS&S department and to make a major policy change to decentralize ownership and management of the systems to the communities. Third, with

technical support from EHP, INAPA developed a strategy for decentralizing rural WS&S services and began the process of developing its capacity to implement this strategy.

The purpose of this activity is to strengthen INAPA's management and operational skills in the supervision and monitoring of NGOs that implement rural WS&S projects and to institutionalize decentralization strategies including the development of policies and procedures. In addition, this activity will develop technical standards and procedures for use by INAPA and the institutions that they monitor for the design, construction and O&M of water supply and sanitation systems that are appropriate for rural areas and can be sustained by community-based organizations after INAPA devolution of ownership to local communities.

# 17

## **Morocco -Environmental and Behavioral risk Factors for diarrheal Diseases in Childhood**

A cross-sectional survey was conducted in two towns in southern Morocco to assess the prevalence of childhood diarrhea and identify associated risk factors in order to provide the communities with guidance about the magnitude of the problem and point out areas for potential interventions. Of the 400 children randomly chosen from sampled households, 42% were reported to have had diarrhea during the two weeks prior to the interview. The survey findings suggest that a number of indicators can be used to plan and monitor interventions to improve the chances that a child will remain healthy. Those indicators include: household-level access to tap water; quality of tap water; effectiveness of waste treatment at municipal and household levels; proper disposal of children's feces; supplemental feeding of children; and knowledge that washing children's hands and keeping household utensils clean are ways to prevent diarrhea.